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Defense Management Journal

DOD COST REDUCTION AND MANAGEMENT IMPROVEMENT PROGRAM

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This initial report is a building block for future MACONOMY efforts to maintain an effective, hard-hitting force with a minimum expenditure of resources.

W C Westmoreland
W. C. WESTMORELAND
General, United States Army
Commanding

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Defense Management Journal

(formerly Cost Reduction Journal)

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The Defense Management Journal is published quarterly by the Directorate for Cost Reduction and Management Improvement Policy, Office of the Assistant Secretary for Defense (Installations and Logistics), for distribution within the Department of Defense.

The Defense Management Journal seeks to stimulate cost reduction ideas, promote cost consciousness, and enhance understanding of efficiency programs. The Journal's content includes: (1) cost reduction goals and accomplishments; (2) policies and procedures of the cost reduction system; (3) cost reduction techniques and processes in all functional areas from which savings are derived; (4) new developments in concepts and philosophy that affect cost reduction objectives; and (5) specific cost reduction examples, with attribution where appropriate.

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EDITORIAL

WHAT IS RIGHT WITH SUPPLY MANAGEMENT?

Not much, if you swallow headlines whole.

Harsh, glaring, repetitive publicity can make the exception look like the rule. It can create the impression that Defense supply operations are sloppy, ill-managed and a mess—a pretty damning indictment and, if true, a catastrophe.

Indictments are easy. Facts are harder. Try these:

- Long supply is at its shortest ($10 billion today vs. $13 billion in fiscal year 1961).
- Reuse of excess reached its highest these past two fiscal years ($1.85 billion in fiscal year 1966 and $1.54 billion in fiscal year 1967 vs. $956 million in fiscal year 1961).
- Ratio of supply inventories to equipment in use is the lowest of the Sixties (43 cents of supply inventory per dollar of equipment in use in fiscal year 1967 vs. 60 cents in fiscal year 1960).
- Supply response is the fastest ever (a priority requisition and shipment system airlifted over 64 million pounds—representing 410,000 requisition lines—to Southeast Asia in calendar years 1966 and 1967).
- Productivity today in supply functions (boosted by 700 computers) tops any period in history (e.g., less than a 1-percent increase in personnel at one major inventory control point is handling a 31-percent increase in requisitions).
- Equipment deadline rates in South Vietnam beat peacetime standards (sample ratios in a recent week: wheeled bulldozers, 1 percent; M109–155 Howitzer, 1 percent; 5-ton dump truck, 2 percent).
- Southeast Asia stocks are the most intensively managed of any war (monthly status reports—every 15 days for air munitions—funnel fresh data to the Joint Chiefs of Staff on 284 major items of munitions and equipment, showing combat use rates, pipeline performance, forecasted combat and training consumption, asset positions, etc.).
- Cost-consciousness as a formal, organized effort in a combat zone became a famous first (General Westmoreland's "MACONOMY" program in Vietnam is expected to save over $100 million this fiscal year).
- 14 percent fewer supply depots and 27 percent less storage space support almost three-quarters of a million more uniformed personnel than in fiscal year 1962 (with about 14 percent of that military force deployed in a combat area).
- Integration of supply management responsibility reached an all-time high (there has been a fiftyfold increase in items under single managership—vs. separate service managerships—since 1960).

Impressive, yes? And there is much more, enough to prop up any supply manager's sagging ego. After all, inner satisfaction for a job well done is what really counts—the psychologists tell us.

Deputy Assistant Secretary of Defense Paul Riley is DoD's top supply specialist. The Journal asked him what most bugs supply progress. We expected him to say: "Unfounded criticism." He didn't though. He said instead: "We can never afford the luxury of relaxed, self-satisfaction."

COMMENTARY

What's in a Name

This publication's name has changed. So has the publication's parent program.

The "Cost Reduction Journal" is now the "Defense Management Journal." The Cost Reduction Program is now the Cost Reduction and Management Improvement Program.

What does the change portend?

Nothing for the Journal. Considerable for the Program.

The Journal always has liberally construed "cost reduction" to encompass any program, activity, or action that produced more economy, efficiency, or effectiveness. Program administrators, however, have not had such literary license—and, in the nitty-gritty of organizational life, never will.

The formal parlance of professional cost reducers limits officially recognizable progress to any new, improved, or intensified management action that has a measurable dollar impact. Unhappily, this definition has two drawbacks. First, its accent on the individual management action excludes broad-based programs where results can only be reflected in dollar aggregates of innumerable individual actions. Second, its accent on dollars excludes all actions where progress is not measurable in dollars—even though these actions could be measured accurately by some other standard (e.g., cubic feet utilized, time elapsed, units processed, etc.).

If setting goals, measuring progress, and reporting results helps cut costs, why not use the same kind of system to reach equally desirable objectives?

Absolutely no reason why not! So the Secretary of Defense memo of September 22, 1967, opened up whole new horizons for management improvement by encouraging broader use of cost reduction-type systems and techniques.

And that, of course, is why the name has changed.

The Complete Manager

No one faults a cost reducer. After all, how fussy can you be?

N-E-V-E-R—T-H-E—L-E-S-S, The Journal would whisper a truth—that the guy who saves a buck is not necessarily the *complete* manager.

There are other ways to tell a winner. It's a fact.

A fellow can make a better mousetrap without saving a single 1920-type nickel—which is an O.K. deal if the goal is mouse-icide.

The trick is to tell whether some unpriceable management activity really is helping to move an organization closer to a desirable management objective—and, if so, by how much. That's a fancy way of saying: "How do you keep score on progress without dollars as a measure?"

Cinch!

First, find out what is good—like a low, low dollar volume of outstanding letter contracts or very, very few undefinitized change orders. Low or few is good. None at all is perfect.

But perfect is unreasonable. So be reasonable. Count last year's batch. Then ask the people who place and convert letter contracts and undefinitized change orders to predict happier levels for the end of this year. Then ask them to place less and convert more to reach those projected levels.

Second, keep tabs on how they're doing, fiscal quarter by fiscal quarter—i.e., measure the progress.

Third, tell topside how they have done—i.e., report the results.

It works for cost reduction. Why not for management improvement?

The system works because self-respecting people and organizations respond to its pressures and its incentives. Justifiable pride in accomplishment is a potent force. It helps build a pile of better mousetraps.

If not dollar goals and measures, then what?

Want to squeeze water out of inventories? Simply count the number of unneeded items eliminated each year.

Not enough specifications? Compare actual specification production with scheduled specification production—and compare both with last year's levels.

Insufficient cataloging? Try number of "item identifications" generated as a measure.

Operation and maintenance of administrative vehicles? Why not cost-per-mile as an indicator of progress?

Warehouse utilization? Objective: Increase the percent of net storage space available for storage as compared with the gross space used for storage operations.

Formal advertising? Percent of total procurement—actions and dollars.

Speed up processing of value engineering change proposals? Number of over-age VECP's versus number on hand compared with last year.

And so it goes.

Our capsule coverage of the new Management Improvement Program is oversimplification at its worst—but it does make the point.—We think!

(Continued on p. 56, Commentary)

Cost Reduction in the U.S. Department of Agriculture

By ORVILLE L. FREEMAN,
Secretary of Agriculture

The Department of Agriculture's 28 agencies and staff offices are grouped into six broad mission areas, each reporting to the Secretary through an assistant secretary or group director. They are: Rural Development and Conservation, International Affairs, Marketing and Consumer Services, Agricultural Economics, Science and Education, and Departmental Administration. Two agencies, the Agricultural Stabilization and Conservation Service and the Federal Crop Insurance Corporation, report through the Under Secretary; two more, the Office of the General Counsel and the Office of the Inspector General, report directly to the Secretary.

In addition to its agricultural functions—commodity programs, agricultural research, credit, extension and others—the Department's 87,000 permanent full-time employees also perform a great number of other activi-

The author visits with Earl Strickler, Albia, Iowa, during a recent inspection tour of rural area development projects. Strickler is the recipient of an economic opportunity loan from U.S. Department of Agriculture which helped him establish a welding business to supplement the income from his small farm.

ties in the United States and around the world. For example:

- The Forest Service administers—for recreation, timber harvest, grazing, wildlife, and watersheds—some 187 million acres of national forests and national grasslands.
- Consumer and Marketing Service inspects and grades most of the meat and poultry consumed in the United States as well as other commodities and administers the Food Stamp and Direct Distribution Programs for the poor.
- We operate the third largest civilian motor vehicle fleet in the Federal Government, 29,750 vehicles that covered 261 million miles last year. Our librarians run the second largest Government library, after the Library of Congress, in the United States.
- In addition to its direct responsibilities, the Department cooperates with private foresters, the Land-Grant Colleges and thousands of soil conservation districts in jointly administered State, Federal, and local research and action programs.

The Department's work is both diverse and decentralized. Offices are maintained in each of the Nation's 3,071 counties. USDA agricultural attaches report from 60 foreign countries and USDA technicians help 36 developing nations. In the 12 years that Food for Peace has been on the books, USDA has been involved in shipping food aid to 116 nations around the globe.

A USDA employee examines a tray of screw-worm pupae being raised at a huge "fly-factory" in Mission, Tex. Millions of dollars have been saved for the cattle industry through the release of sexually sterilized flies in sufficient numbers to overwhelm the natural insects. Through this unusual method the screw-worm population is being controlled and eliminated.

The diversity of our missions, the decentralization of our operations, and the involvement of the Department with many levels of Government, all have had their impact on our cost reduction efforts.

My own personal involvement with improved management in the Department of Agriculture began in 1961, when I became Secretary after 6 years as Governor of Minnesota. From these years on the State level I had developed a pragmatic view of administration and a belief in the "self-survey" concept of management. I believe that outside surveys are important and useful, but that we know ourselves—and our own organizations—best.

Organizational Changes

In the early sixties we initiated a number of organizational changes:

- We brought together, into the newly created Economic Research Service and the Statistical Reporting Service, the economists and statisticians who had formerly been scattered throughout the Department, and created a position of Director of Agricultural Economics.
- Under a newly created Director of Science and Education, we began the job of cataloging and planning, for 10 years ahead, the Department and cooperative research programs in agricultural science that have contributed so much to the productivity revolution in agriculture. This program has been described in detail in Budget Bureau Director Schultze's article in the spring issue of "Cost Reduction Journal."
- An Office of Management Improvement was created and one of its early appraisals—of the Federal Crop Insurance Corporation—resulted in a reduction of 62 employees, elimination of 10,000 square feet of office space, and destruction of 3,000 cubic feet of obsolete records. Six underwriting offices were consolidated and total cost reduction was more than $1 million.
- Then an Office of Management Services was established to provide consolidated administrative support services for 18 small agencies and staff offices, with initial savings of 22 man-years and $138,000. Meat and poultry inspection services were consolidated in one organization with a savings of $500,000 per year.

Manpower Administration

Since training and manpower development are basic to efficient management, we have been enthusiastic participants in the executive seminars operated by the Civil Service Commission and in the Executive Development Program of the National Institute of Public Affairs. Intradepartmental seminars for middle and top management have also been established.

Department employees have received an increasing number of outside awards in recent years. This, to me, is indicative of the success of our internal management of the ever-broadening mission with which the USDA is charged. In 1966, the administrator of our Agricultural Stabilization and Conservation Service (which operates price support and related farm programs) received the Career Service Award of the National Civil Service League. A top USDA agency official has received the District of Columbia Junior Chamber of Commerce Arthur S. Fleming Award for outstanding young men in the Federal Government in each of the last 2 years. The American Management Society's Paperwork Management Award has gone to a USDA employee each year since 1965. Dr Edward F. Knipling, one of the world's leading entomologists, was the recipient of a Rockefeller Public Service Award and the National Medal of Science for his work in originating the revolutionary concept of controlling insect pests through sterility.

Program Planning, Review and Evaluation

In 1962, to enable us to quickly spot and correct problem areas, we brought together USDA auditors and investigations from throughout the Department into an Office of the Inspector General, who reports directly to the Secretary. We also set up a planning, evaluation and programing staff to provide expert analysis of programs and missions and to determine alternative means of achieving them.

In 1964, after reviewing the Department of Defense's system, we developed our own cost reduction and operations improvement program, CR&OI, using as a theme the "4–I's"—Involvement, Ingenuity, Improvement, and Incentives.

The System

USDA's revised "War on Waste" began in July and August 1964. Changes in our reporting system allowed us to specifically identify the dollar value of each improvement. Criteria were developed to categorize savings to: (*a*) Classify all operational improvements; (*b*) to identify, each reporting period, the effect of an improved operation in dollars and manpower; and (*c*) to identify the priority programs to which savings are diverted.

Using this system—with the continuous involvement of agency heads, cost reduction and operations analysis staffs, managers and employees—the program got underway. From the beginning, the program had my enthusiastic support.

In fiscal 1964, the Department identified savings of $95 million from cost reduction and improved productivity. In fiscal 1965, we reported new savings of $137.5 million to the Budget Bureau. By fiscal 1966, savings were almost $435 million.

Agencies and employees increased their participation in the program. In the first quarter of fiscal 1965, 13 agencies reported cost-cutting actions. By the end of fiscal 1965, agency participation grew to 20. This level of agency participation has held since. Within the Federal establishment, the Department has consistently been either the top or near-top nondefense agency in savings realized.

In May 1965, the President asked me to describe to the Cabinet the Department's cost reduction program. This is what I told them:

Involving all employees in the cost reduction program—and recognizing their achievements—is the key. Wide participation is emphasized—if an idea works successfully in one agency, try it again in another. Cost reduction receives maximum attention in training programs, both in Washington and the field. Informing every employee of success is continuous also. Posters depicting cost reduction efforts have been used extensively in the Department. Achievements are pictured and described in employee bulletins, publications, and in movie and slide presentations. A series of cost reduction tips helps supervisors on the line identify moneysaving possibilities.

Tips for Supervisors

In addition to receiving wide internal circulation, "Tips for Supervisors on Cost Reduction" was condensed and reprinted by the American Society for Pub-

Mr. and Mrs. Clovie Duckett, Little River County, Ark., show the author their new one-bedroom home complete with modern kitchen, bath, and water system. The new home, which replaced previous inadequate housing, was built with a USDA Farmer's Home Administration senior citizen's housing loan.

lic Administration. As a result of this publicity, requests for the complete brochure have come from other Federal agencies, State and local government instrumentalities, the academic community, private individuals, and others.

Cost Reduction is the "umbrella" for all operational improvement, with special drives sponsored by Department staff offices in management. The Department's directives on Cost Reduction and Operations Improvement carry this theme forward. These require:

1. Close supervision by top management.
2. The submission each fiscal year of agency cost reduction goals (expressed in dollars).
3. Semiannual project reports by agencies of progress toward achievement of goals.
4. Review of goals and progress by a high-level Department program and budget review committee.
5. Close correlation of reported savings with budget plans.
6. Validation of claimed savings.

Recognition—A Vital Ingredient

We held our first Cost Reduction Awards Ceremony in the spring of 1965, with the Vice President speaking. The 19 awards given represented savings of over $5 million. The awards were presented as part of a Government-wide celebration of the 10th Anniversary of the Federal Incentive Awards Act.

This ceremony was so well received that we initiated a special USDA Merit Award for Outstanding Cost Reduction Achievement. This new award goes to employees or groups who make an outstanding contribution to economy and efficiency. An agency head may nominate up to five recipients each year. Recipients receive a special certificate in addition to other monetary or honorary recognition.

Our second ceremony was held on April 5, 1966. Special Merit Awards were presented to 37 employees. The awards represented savings in excess of $26 million. President Johnson personally presented award certificates to our winners.

We held our third ceremony this spring with Director of the Bureau of the Budget Charles Schultze as our guest. Special Merit Awards were presented to 38 individuals and groups with money saving ideas ranging from the use of helium balloons to guide insecticide spray planes (which saved $5,000) to an elaborate nationwide method of stretching $31 million in grants for rural water and sewer projects to do the work of $92 million in grant funds.

Director Schultze said, "I'm aware of the fact that cost reduction is frequently regarded as a negative sort of activity. But let me emphasize this is just not so—that cost reduction is a positive force. Cost reduction means getting more benefits with the same dollars—it means using the taxpayer's resources more effectively."

Payoff—Fiscal 1967

We set a savings goal of $503 million for fiscal 1967: $58 million in savings from planned improvements in agency operations and $445 million in savings from policy changes in farm programs financed with Commodity Credit Corporation funds. We exceeded our total goal by close to $200 million. This savings to the taxpayers consisted of nearly $90 million from operational improvements and over $600 million from farm program and Commodity Credit Corporation policy changes affecting cotton, wheat, grain sorghum, flue-cured tobacco, and other commodities.

These are a few typical price tags on large and small items last year:

- A Statistical Reporting Service office saved $25 by using scratch pads made from obsolete forms.
- An old cavalry horse barn at Front Royal, Va., was converted to a feeding facility for cattle research. Savings to the Agricultural Research Service: $16,600.
- Position management savings totaling $7.4 million were reported by 14 agencies of the Department. These savings stemmed from delays in filling vacancies, elimination of positions, realinements and combinations of work assignments, "job engineering," and similar efforts.

A Look Ahead

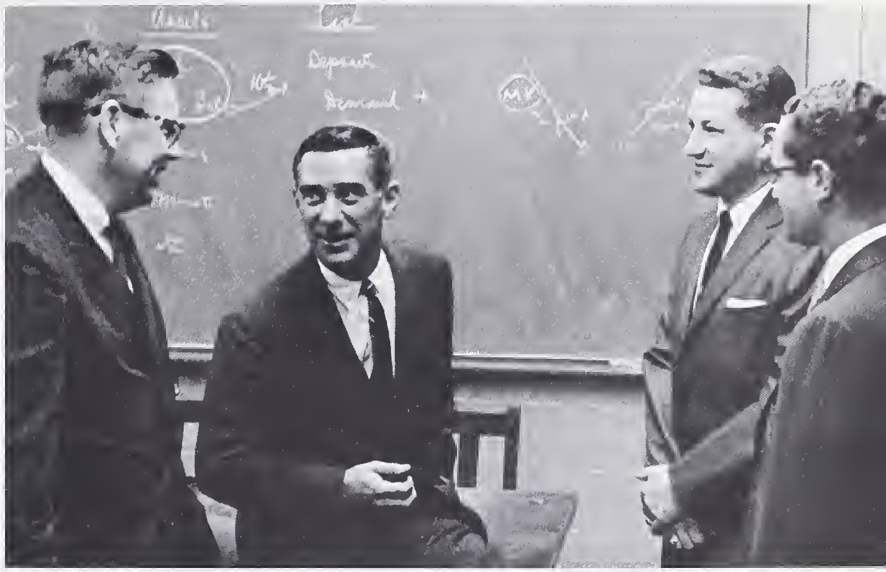
Dollar stretching is a way of life throughout the Department and the thrust of cost reduction is constant. We need continued involvement up and down the line, and to challenge managers and employees to continue to tighten up old operations to free resources for the job ahead.

One of the challenges we're currently exploring in USDA is whether to establish cost reduction councils or similar steering groups in all agencies. These groups could provide advice to agency heads and serve as sponsors of efficiency and economy efforts within program and administrative areas.

A Presidential Advisory Council on Cost Reduction was established at the White House level on May 23, 1967. The Program and Budget Review Committee performs a somewhat similar function at the Department level in USDA. But it's at the working level that costs are held and cut. Perhaps subsidiary groups would serve a useful purpose.

I am sure other challenges will present themselves. I am convinced that day-to-day effort and day-to-day improvement count. Involvement, from messenger to manager, is the most vital ingredient of cost reduction. This we intend to nurture and build upon. ☐

The author (second from left) discusses his concepts of organizational behavior with colleagues at M.I.T.



THE FUNDAMENTAL ORGANIZATIONAL UNIT . . .

The Superior-Subordinate Relationship

In one of the Eastern-bloc countries recently I listened to a senior official of that country explain how the workers owned the factories and hired and fired the managing director. After the formal presentation, made in perfect English, I said to the speaker, "If I were an hourly paid worker in your country, I suppose I would feel some sense of satisfaction in the thought that I owned the factory where I worked—that I could hire and fire the managing director—but tell me something: suppose I reported in every morning to a boss who was an s.o.b.?"

He roared with laughter, grabbed me by the arm, and leaning very close, whispered, "That's one of the biggest problems we have in this country."

I asked him if the Communist ideology did not concern itself with superior-subordinate relationships. He shook his head. Later on in Russia, I asked a number of people who could not imagine what I was talking about. In the U.S.S.R., they said, workers are com-

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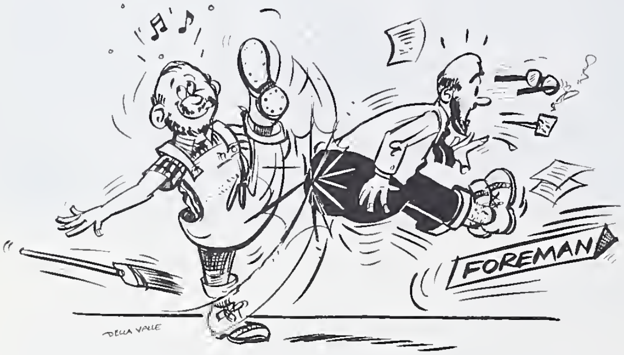
By* Dr. PETER P. GIL, *Associate Dean, Executive Programs, Sloan School of Management, M.I.T., Cambridge, Mass.

pletely provided for and completely protected. Like T. S. Eliot's couplet about:

> The man who designed a system so perfect
> That no man need be good

the Communist system provides economic, social political, legal, and cultural support and standards for the workers. It does not concern itself with, and it may not even be aware of, the consequences of working day after day for an unfeeling, uninterested and uncommunicative boss.



There is no word for manager in Russian. There are words for leader or overseer, but not for manager. They use the English word. Along with the absence of the word may be the absence of the connotation of "responsible to and responsible for" that is associated with the English word. Responsible behavior is not created by a manual or by dramatic exhortations about the virtues of being a worker. If a supervisor has no feelings of responsibility *to* his subordinate and *for* his subordinate, ringing slogans will not serve as a substitute. The subordinate will soon perceive the lack of worth and relevance attached to his efforts and aspirations. In the Western, capitalistic world, under those conditions, the worker quits, transfers, slows down, walks out, asks for more money, or files grievances that are concerned with symptoms rather than the disease. In some of the still remaining pioneer parts of this continent, like Alaska and British Columbia, the worker might also punch his foreman in the nose.

I should stress the fact that I am not talking about a boss who uses abusive language, gets drunk, steals, plays favorites, or does anything that might constitute an infraction of the law, the labor contract, or the unwritten norms of the shop. I'm talking about the boss who either looks right through you or down at you—who grunts commands, doesn't tolerate or answer questions, never consults with his subordinates, keeps all information entirely to himself, and ruins a man's reputation by charges of wrong attitude that cannot be explained away.

What do workers in Socialist societies do when they face this kind of a boss day in and day out? In one Eastern European country I told an official that workers in his country had the reputation of working at a deliberately slow pace. He replied that it was probably true. I asked him why this was so. "It's the only way they can vote," he answered.

So far we have been talking about workers. I hasten to add that these concerns apply to superior-subordinate relationships at all levels of an organization. Consider, for example, some of the following situations involving superior-subordinate relationships at various levels under familiar conditions:

- The anxious young graduate submits a report his boss requested: no feedback from anyone.
- A manager is told that a given assignment is his baby—and then finds he is back-seat driven on the smallest details by both "line" and "staff."
- A senior manager is told to "build a team" but is not allowed to participate in decisions that affect his subordinates' titles, locations, salaries, assignments, etc.

Quite clearly the behavior of the superiors concerned in the situations described above, is not a behavior that calls for legal sanctions. There is no system that can in itself punish or prevent this type of behavior. In fact most systems simply do not deal with it at all—or, if it is dealt with, it is often at the most ineffectual level of generalization, i.e., "People Are Important," or "Our Employees Are Our Most Valuable Asset."

Yet among a large, increasingly large, number of senior managers in industry and government, the superior-subordinate relationship is of crucial concern.

Their concern takes two separate and distinct forms:

1. As a manager who has other managers reporting to me, how can I get those managers to worry more about "people problems" instead of worrying almost exclusively about "thing problems?"

2. As a manager how can I create the kind of atmosphere within which my subordinates will feel reasonably free to give me the unpleasant, awkward feedback I must have in order to make improvements?

These two points are, of course, not unrelated.

When a senior manager raises the issue described under 1. above, a close examination of his organization will often reveal the following:

a. All, or most, of the formal and informal meetings that take place in the organization are about "thing problems" and not "people problems." In the offices and in the corridors, managers will be found discussing valves, generators, delivery dates, costs, etc.

b. When "people problems" are discussed, the discussions are often guarded, restricted to only top senior officers because they are concerned with promotions, salary increases, transfers or crisis situations that are confidential. Rarely, if ever, are there any relaxed, unemotional intervals devoted to "how the new man is growing in his new job." One does not often attend a meeting called entirely, or even partly, for the purpose of discussing how we might do a better job of motivating people in the organization—or helping supervisors learn and grow, to build a more effective team spirit, and so forth. I am not referring to meetings of this kind called in response to a directive like the well-known blast of the president to his vice presidents, "You fellows better start practicing human relations around here or I'll fire the whole damned bunch of you." And the often-quoted plea of the Hollywood producer to his directors, "I want you men to tell me the truth even if it means losing your job."

People in supervisory positions are not usually uncooperative and disloyal: they do tend to be busy—often harried. They cannot attach equal importance to every dimension of their job. They read their senior managers and how they read them determines how they assign priorities. If the top brass tends to be somewhat compulsive about quality, you will find managers throughout the organization spending more time on quality than on, say, safety—or housekeeping, or human relations. Verbalization and behavior are not the same. Telling a group of managers that people are terribly important communicates little. Asking a manager whether there is enough opportunity and challenge for him in his department under the new setup does communicate a most explicit and concrete concern. It is not abstract. A division manager who found he had a high turnover of young engineers in some of the departments reporting to him told the department managers who reported to him, "I want every young engineer who resigns interviewed by at least two people, and I want a complete report on each one." Until that time he had only demanded such data about faulty generators and late deliveries. In some instances the division manager also sat down with some of his department managers to analyze the reports submitted regarding engineers who resigned. Many of those department managers found themselves, in turn, sitting down with a young engineer, to give him some feedback on reports he submitted. For when a manager makes it plain, by his behavior, that he is committed to The Human Side of Enterprise,[1] two results are forthcoming:

1. He is conditioning his subordinate managers to develop similar concerns regarding their own subordinates.

2. He is creating a climate within which more open, frank, and receptive communications can take place.

In the case of 1. above, there are two types of concern I have seen expressed by senior managers:

a. The human concern related to organizational goals and standards: "A large number of our people are dragging their heels on the new cost-reduction plan. Are we introducing it incorrectly and thereby causing unnecessary grief to our people?"

This concern is as tough as it is empathetic. It is an approach that sometimes leads to a manager's dismissal or transfer because of the poor manner in which he supervises his subordinates. One of the managers in the organization with the high turnover of young engineers was transferred bacause of his negative behavior toward new engineers: his method of breaking in a new arrival was to give him meaningless assignments in order to deflate the conceit he felt all young graduates must possess.

b. The human concern not directly related to organizational needs, but which provides strong commitment to organizational goals: "How is your new man doing? Has he found a place to live? Has his family

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[1] The Human Side of Enterprise, by Douglas McGregor, McGraw-Hill Book Co., New York, 1960.

joined him yet? I know we're tight on office space; were you able to get him fixed up properly? Let me know if there is anything you want me to do to help make him feel welcome."

I still remember, vividly, a boss I had years ago on my first job after finishing graduate school. While discussing a trip I had made for the company, he learned that I had stayed overnight with some friends in a distant city. It also came out, in our conversation, that I had not charged on my expense account for some flowers I bought for my hosts. It would have been a charge in lieu of a hotel room charge. "Put it down," he said. "We don't need your money to run this organization." After that episode there was no need for sermonettes or brochures to assure me that the organization cared about its employees' rights and well-being.

How does this behavior start in an organization, and how does it spread throughout it? How can we prompt it? We do not as yet even have a name for it—it has something to do with morale, but it is more and it is different. It is implicit in an unwritten norm that says "We don't hold back that kind of information here." or "A lot of the ideas that come down to us from the top are a little weird-o, but at least no one is trying to put something over on you the way they are in some outfits."

This climate cannot be legislated, nor can it be achieved by directives or by exhortations. This behavior has to be practiced, and only over a long period of time can we expect to find it in an organization as an unconscious model of "what everyone knows" is acceptable and desirable. Training programs help, but the translation of those programs into changed behavior will have to take place at the fundamental unit of the organization: between a superior and a subordinate.

The growing body of behavioral science theory makes individual and organizational behavior more and more comprehensible. It is not surprising that managers in a wide variety of organizations are increasingly familiar with the contributions of behavioral scientists. There is a risk, however, that our human appetite for magic answers may cause us to overlook the relevant details while searching for the more elegant, broad concepts of organizational behavior. Each day, in a dozen different ways, a manager's behavior reveals his order of priorities, as they are—not as he says they are. His subordinates tend, in turn, to translate this order of priorities into an operational system of rewards and punishments.

People in organizations have a sure knowledge of their organization's system of rewards and punishments. They can, for example, immediately distinguish between what is professed and what is practiced. A well-known example dramatizes the point: Lectures and circulars that offer rewards for good maintenance and punishment for poor maintenance are understood differently (but correctly) by supervisors who are told that "we are too busy" when they try to shut down a machine to practice good maintenance. The message to a subordinate is even more disturbing when his superior talks about the importance of people to the organization, but his time and energy is spent primarily on "thing problems."

The day-to-day working relationship between a superior and a subordinate can elicit apathy and hostility or involvement and commitment, regardless of the stated ideals and principles of a company, or a nation.

Compared to a Communist state there is far less probability that our free democratic society will see its ideals seriously distorted by the way authority is wielded in the office and in the factory! We are a pragmatic people. We tend to think of democracy as having something to do with the way we are treated—and not merely as some abstract theory of human relations. This means that perhaps people tend to expect a great deal more from a superior than they might in a socialistic society. I believe they do have such expectations and that is why I attach so much importance to the role of the boss who affects such a large percentage of his subordinate's life. It is within that relationship—from the most junior supervisor to the most senior officer—that people daily "get the message." ☐

Hardly a week goes by that I don't read some fantastic description of systems analysis in the Pentagon. The more I read about it in the public press, the more I get the feeling I must not be doing it.

According to some accounts, the essence of systems analysis is the application of computers and fancy mathematics to reduce all issues to numbers, with lots of attention to cost and none to effectiveness, and with a complete lack of interest in military judgment or anyone else's judgment. If I believed that even a small fraction of such descriptions were accurate, I would recommend to the Secretary of Defense and the Deputy Secretary that they fire me. I am sure that if they believed I was trying to replace their judgment with a computer, they would not wait for my recommendation.

WHAT SYSTEMS ANALYSIS IS AND IS NOT

By Dr. ALAIN ENTHOVEN,
Assistant Secretary of Defense
(Systems Analysis)

Reasoned Approach

In fact, systems analysis is just one name for an approach to problems of decisionmaking that good management has always practiced. The essence of systems analysis is not mysterious, nor particularly complicated, nor entirely new, nor of special value only to Defense planning. Rather, it is a reasoned approach to highly complicated problems of choice characterized by

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The author adapted this article from his testimony at hearings before the Senate Subcommittee on National Security and International Operations, Committee on Government Operations, Sept. 27 and Oct. 18, 1967.

The author pins the Legion of Merit medal on Col. Frank A. Camm, Engineer Corps, for his valuable contribution as Senior Military Officer in the Systems Analysis Office. The citation accompanying the award stated: "His imaginative analyses have led to new approaches for analyzing the mix of artillery systems, to an adaptation of the LANCE system to an additional mission, to a major modernization effort for the PERSHING force, and to a study of conventional and nuclear munitions that promises to lead to a major advance in understanding the dynamics of tactical nuclear battles."

much uncertainty; it provides room for very differing values and judgments; and it seeks alternative ways of doing the job. It is neither a panacea nor a Pandora's box.

Decisions must be made by responsible officials on the basis of fact and judgment. Systems analysis is an effort to define the issues and alternatives clearly, and to provide responsible officials with a full, accurate, and meaningful summary of as many as possible of the relevant facts so that they can exercise well-informed judgment; it is not a substitute for judgment.

You might object, "But you're merely describing disciplined, orderly thought; why call it 'systems analysis'?" Most labels are imperfect; this one is no exception. We use the phrase "systems analysis" to emphasize two aspects of this kind of thinking.

First, every decision should be viewed in some meaningful context. In most cases, decisions deal with elements that are parts of a larger system. Good decisions must recognize that each element is one of a number of components that work together to serve a larger purpose. The strategic bomber, the airfield, the pilot, the fuel, and the spare parts are all parts of a weapon system. One cannot make sense out of airfield requirements without looking at the objectives the bomber is intended to achieve. For some purposes, it is necessary to look at the airfield construction program as such; there would be no sense in building a new bomber base if a perfectly good transport base were being vacated a few miles away. Similarly, to make sense of strategic bomber requirements, you need to look at other strategic offensive weapons, such as missiles.

There is nothing mysterious about this kind of thinking. Informed men in the Congress, the executive branch, and elsewhere have been pointing out the need for such an approach for years. We are doing it, and we have given it a name.

The word analysis is used to emphasize the need to analyze complex problems, that is, to reduce them to their component parts. Then each of the component parts can be studied by methods appropriate to it. Logical propositions can be tested logically; questions of fact can be tested against the factual evidence; matters of value and uncertainty can be exposed and clarified so that the decision makers can know exactly where to apply their judgment.

Not A Substitute for Judgment

Systems analysis is not a substitute for judgment; it is an aid to judgment. It helps by isolating those areas where judgment must be applied and by indicating to the decision maker the potential significance of each of the alternatives he might choose. Systems analysis is not a "wholly rational basis for decision making . . . (a) technocratic utopia where judgment is a machine-product." [1]

Far from it. It is based on the fact that most decisions in Defense are at least partly susceptible to rational treatment, and it tries to deal with these in a disciplined way, leaving the responsible decision makers more time to ponder the imponderables and weigh the intangibles.

Open and Explicit Analysis

One of the foundations of systems analysis in the Department of Defense is the concept of "open and explicit analysis." Unfortunately this is not something that is discussed in the formal literature on analytical methods, but it is very relevant. In fact, this concept is the single most important idea I have to communicate today.

An analysis is "open and explicit" if it is presented in such a way that the objectives and alternatives are clearly defined, and all of the assumptions, factors, calculations, and judgments are laid bare so that all interested parties can see exactly how the conclusions were derived, how information they provided was used, and how the various assumptions influenced the results. We do not achieve this in every case, but this is the objective, and important issues are almost always approached this way.

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[1] Planning-Programing-Budgeting: Initial Memorandum, Subcommittee on National Security and International Operations, Committee on Government Operations, U.S. Senate, 90th Congress, 1st sess., Aug. 11, 1967, p. 6.

In other words, systems analysis is a method of interrogation and debate suited to complex, quantitative issues. Systems analysis is a set of ground rules for constructive debate; it gives the participants useful guidelines for proceeding to clarify and resolve disagreements. It requires the participants to make their methods of calculation and their assumptions explicit so that they can be doublechecked; it helps to identify uncertainties, makes these uncertainties explicit, and aids in evaluating their importance; and it identifies and isolates issues.

In cases of substantial disagreement, it is much better to join your adversary in a joint analysis than to restate without change last year's arguments for last year's frozen position. Joint analyses often narrow the differences, and sometimes lead to agreement, by helping the adversaries to persuade each other of the merits of their arguments and by identifying new alternatives that are mutually more satisfactory.

Highlights Key Issues

This is an especially important aspect of systems analysis as it operates in the Department of Defense. Frequently, when there are differing points of view on the value of a proposed program the Secretary of Defense asks us to prepare a memorandum listing points of agreement and disagreement. For each of the points of disagreement, an agreed calculation is performed which shows the implications of each person's assumption. The Secretary of Defense is then able to see exactly what the issues are, how important they are, and what judgments he must make in order to resolve them.

For example, last year the Secretary of Defense got conflicting estimates from my office and from the Army of the probable damage to the United States and the U.S.S.R. resulting from various possible thermonuclear wars, with alternative antiballistic missile defense systems. He asked the Secretary of the Army and me to prepare a joint memorandum describing points of agreement and disagreement in such a way that the total difference would be explained explicitly, and our arguments would meet "head on." The Secretary of the Army and I explored the calculations in considerable detail and identified the assumptions that accounted for the difference. We then discussed each of these assumptions, reached agreement on some, and agreed to disagree on others. We then prepared a set of calculations and a table of results which we both agreed was a fair representation of what would happen under each set of stated assumptions. The value of such a table is that it isolates the important assumptions and calls attention to the key judgments that must be made. Systems analysis thus aids and focuses judgment; it does not replace it.

I might add that, partly as a result of that dialogue and similar work with the Joint Staff and the services, we now have an agreed set of methods for calculating the results of thermonuclear war under alternative assumptions. We can all make the same assumptions and get the same answers. We do not always agree on the assumptions, but the agreement on methods of calculation now permits the Secretary of Defense, the Joint Chiefs of Staff, the services, and others to concentrate their attention on determining which assumptions they consider most realistic. This is one valuable contribution that systems analysis makes to decisionmaking.

The Open Approach

The open and explicit approach is fundamental to systems analysis as it operates in the decisionmaking process of the Department of Defense. Open and explicit analysis is our best protection against persistent error. Also, the open and explicit approach makes it very difficult, if not virtually impossible, for any group to rig or manipulate the results. When the Air Force sends the Secretary of Defense an analysis of the requirements for a new bomber, a copy is also sent to my office. We take it apart and see what makes the analysis come out as it does. When my office or the Office of the Director of Defense Research and Engineering does an analysis on bombers, a copy goes to the Air Force. If anyone thinks the Secretary of the Air Force and his staff are going to let my analysts get away with rigging an assumption to prove a point, then that person just doesn't know the Secretary of the Air Force and his staff. And, of course, we try to provide them with the same assistance. I can assure you that the Secretary of Defense hears all sides, and when he gets a joint analysis, he gets a much more precise statement of the issues than would otherwise be the case.

We do not succeed in doing this in every case, sometimes because of the pressure of time, sometimes because one of the interested parties is unable or unwilling to pursue a joint analysis. Nevertheless, this is our objective, and we are achieving it in a growing number of cases.

Systems analysis usually includes some calculations. Where appropriate, it includes the application of modern methods of quantitative analysis, including economic theory, mathematical statistics, mathematical operations research, and various techniques known as decision theory. However, systems analysis is not synonymous with the application of these mathematical techniques, and much of the most important systems analysis work in the Department of Defense does not use them.

Systems analysis is not an attempt to measure the unmeasurable. But one of the opportunities that systems analysis offers for creative work is seeking ways of giving valid measurement to things previously thought to be unmeasurable. A good systems analyst does not leave considerations that cannot be quantified out of the analysis. Inevitably such considerations will be left out of the calculations, but a good analyst will and does list and describe such factors.

Systems analysis is definitely not synonymous with the application of computers. We sometimes use computers, we also use pencils, paper, slide rules, telephones, etc. The computer aspect has been grossly overplayed in many discussions of systems analysis. The use or misuse of computers is too minor an aspect of this subject to be relevant to a serious discussion of systems analysis.

Cost-Effectiveness Analysis and the Relevance of Cost

Some of the main tools of systems analysis come from economics. Where appropriate, we approach problems of choice by defining the objectives, identifying alternative ways of achieving the objectives, and identifying the alternative that yields the greatest effectiveness for any given cost, or what amounts to the same thing, that yields a specific degree of effectiveness for the least cost. In other words, the main idea is to find the alternative that yields the greatest military effectiveness from the resources available.

Systems analysis includes a critical evaluation of the objectives. It recognizes that most ends are, in fact, means to still broader objectives. For example, an ability to destroy a particular target is not likely to be an end in itself; it is a means to some more basic end such as deterrence. Therefore, a good systems analyst will seek to determine whether or not the pursuit of certain intermediate objectives is the best way of pursuing the broader ends.

Thus, systems analysis is often associated with "cost-effectiveness" or "cost-benefit" analysis. The term cost-effectiveness analysis is often misunderstood. It seems to suggest to some people a notion of cost-effectiveness that is somehow to be contrasted to military-effectiveness or just plain effectiveness. It might be better if we used the expression "military effectiveness in relation to cost," or simply "the best mix of military forces."

The point is that every weapon system we buy has both benefits and costs associated with it. You cannot get effectiveness without paying a cost. Each program uses up resources that could otherwise be put to some other useful purpose. Sensible decisions on the use of these resources must depend on the costs incurred in relation to the military effectiveness obtained. Cost-effectiveness analysis is nothing more than an attempt to identify the alternatives that yield the most effectiveness in relation to the money spent and other costs incurred.

The main line of attack on cost-effectiveness analysis is an attack on the relevance of cost. One frequently hears statements to the effect that considerations of cost have no place in matters of national security.

I certainly agree that we cannot afford to buy less than the military forces we really need, and that we must not let defense spending be constrained by arbitrary financial limits that are unrelated to military needs. But it is simply naive to assert, as some people do, that the cost we pay for our military power is irrelevant. Our experience with the war in Southeast Asia each day demonstrates the opposite conclusion. We are in the midst of a great national debate over whether the objectives we are fighting for are worth the cost. Whatever the merits of the particular arguments, it is clear that the cost is relevant if for no other reason than that it affects popular support for the war effort.

One hears other criticisms of "cost-effectiveness" analysis. Does "cost effectiveness" analysis necessarily lead to an overemphasis on cost? It does not. I would like to know how anyone who claims that it does can reconcile that conclusion with the sharp increase in Defense budget requests in the two years after 1961.

Cost in any program merely represents effectiveness foregone elsewhere. The reason that the Secretary of Defense cares about the cost as well as the effectiveness of proposed weapon systems is because he recognizes that the dollars used to support a particular program represent resources that could possibly be used to greater benefit elsewhere. Cost and effectiveness must be related to achieve national policy goals, just as the front and rear sights of a rifle must both be used to hit the target. The position of the rear sight matters only in relation to the front sight. Likewise, the cost of a program matters only in relation to the military effectiveness provided, and vice versa.

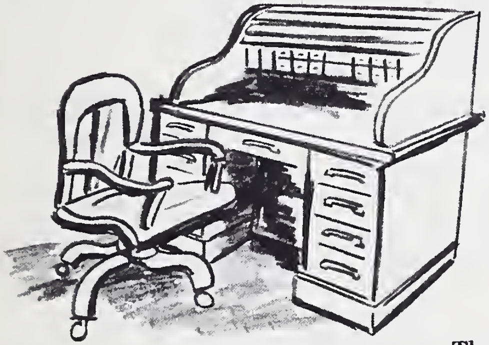
Some Common Misconceptions

Does cost-effectiveness analysis stifle innovation? On the contrary, such analysis has given the proponents of good ideas a better way of making their case and of getting prompt and favorable decisions. I would cite, as examples, such new systems as the Minuteman II, Minuteman III, and Poseidon strategic missile systems; Multiple Independently-targetable Re-entry Vehicles (MIRVs) that enable one ballistic missile to destroy many separate targets; the Short-Range Attack Missile known as SRAM; the Sprint and Spartan anti-missile missiles and the new phased array radar that will guide them; the A–7 fighter bomber; the C–5A transport aircraft; the Fast Deployment Logistic Ships; and the Airmobile Division. In each case, some very good ideas were identified early and sold on the basis of cost-effectiveness analysis. Also, by helping to cut back programs that are based on poor ideas, cost- effec-

(Continued on p. 55, Systems)

The Management Approach To Cost Reduction

. . . A Philosophy



The Cost Reduction Program is an integral part of the total Defense logistics effort. The Secretary of Defense has said that the purpose of this effort is to: "Determine as accurately as possible what we need to support forces required by our war plans; and then buy all of what we need, but only what we need, at the lowest sound price." This is a clear, definitive statement of purpose. The objective has been set. Every person in the Department of Defense involved in the acquisition process knows the desired objective. The Cost Reduction concept pervades every phase of that process.

There are various ways of achieving the objective which has been set. One of the directives on the Cost Reduction Program indicates that cost reduction is achieved through improved management techniques, procedures, or processes. I would like to touch upon the management approach to the subject.

Once management has a prescribed purpose (and we have one, as indicated above), it should ascertain the framework within which it is expected to operate. In the Department of Defense, this too has been made reasonably clear. Logistics is a total, integrated whole. No longer are research and development, engineering design, procurement, manufacture, maintenance, life cycle cost control, and supply support separate islands that are casually or sporadically linked together. Integrated logistics has been described as the composite of the elements necessary to assure effective and economical support of a system or equipment for the programed life cycle of its development, manufacture, and maintenance. Cost reduction is inherent in such a concept.

Given a purpose, and a framework within which it is expected to operate, management can profitably formulate how it proposes to operate and can define its function. The President of the American Management Association has said that management is the development of people and not merely the direction of things. This concept of management gives us a very perceptive

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By GRAEME C. BANNERMAN

The author was The Assistant Secretary of The Navy for Installations and Logistics when this article was received by the Journal. He is now Vice-President for Business and Finance at The University of California at Berkeley.

insight into the effective management of a Cost Reduction Program. It indicates where the cost reductions originate, and equally important, it tells us from where cost reductions will continue to come.

Developed people can do things this year that would not have been possible last year. It is quite possible that the second and third wave of cost reductions, even on increasingly sophisticated equipment, will be more significant than the first and possibly most obvious reductions. But this possibility will exist only if management at all levels is performing its basic continuous function —developing people.

Out of such a definition of management, there must arise a management value system, a determinant for decisions. It has been soundly observed that decisions imply values; values require decisions. I suggest that every mature manager—or supervisor—should formulate a personal and professional value system, and that system should include, in some form or other at least four facets.

First, it must be recognized that the primary resources in any organization are the human resources. Nearly every manager is willing to give intellectual assent to this principle; indeed many of them proclaim it publicly in speeches and statements regarding management. However, it is not equally clear that the concept is honored in many fundamental decisions in the area of Cost Reduction. It is very easy to focus on things in a Cost Reduction Program because things are more quantifiable than people. The importance of the Cost Reduction Program is too often related to the dollars saved in a particular instance rather than the more lasting results—motivated people who will continuously think and act constructively. Thus, means tend to become more important than ends unless it is continuously remembered that things are made more economical or eliminated through and by the motivated human being. This is the central source of energy in any program. Techniques, processes, and procedures are only as good as the individuals and groups who use them.

The second facet of a management value system is reflected in Alfred North Whitehead's rule that: "The organization that does not value trained intelligence is doomed." This conviction is perhaps a corollary of the principle that human resources are primary. In an era of technological knowledge explosion, an era of change, the trained intelligence is more necessary than it has ever been in complex organizations. Its application to Cost Reduction from the research and development phase through the maintenance phase is so clear as to be almost in the nature of belaboring the obvious. Pragmatic tinkering can and does provide occasional cost reductions, but our primary hope must rest in the application of trained intelligence to the problems of complex organizations, systems, and equipments. It should be noted that trained intelligence in an organization does not happen by chance. It can only be the result of planned management. There must be a continuous effort to seek, develop, and motivate it.

The third facet of a responsible management value system is directly related to this fact: The only true control in any organization is the control on the significant personnel decisions. As Peter Drucker has pointed out, there are all kinds of controls in every enterprise, public or private, including expense controls, accounting controls, cost controls, etc., but the only real control is that on the people. Who is selected, who is promoted, who is developed, educated, and trained really reflects what the management is trying to do, what its purpose is, and what is achieved in Cost Reduction or anything else. This principle takes us back to our statement of purpose. If it is our aim to achieve the objective that the Secretary of Defense has set, and this objective has inherent in it cost reduction, then managers must make personnel selections that are compatible with this objective. If the trained intelligence of people is applied to integrated logistics on a managed basis, cost reduction is an inevitable output. This can be achieved through the exercise of the only real control in any organization, the control on the personnel decision.

The fourth facet of the essential management value system is the recognition of the fact that management is basically a dealer in futures. The people, the demands, the opportunities of the future are at least as important as the problems of today. It is generally agreed that the manager who operates under the influence of the "In-Box Syndrome" is manipulating only the secondary parts of his job. Cost reduction, like any other useful effort, is most frequently the result of planned effort rather than something arising out of an unpredictable bolt from the blue. Too many managers spend, and sometimes must spend, too much of their time on yesterday's problems. This is a self-defeating cycle: More and more time and effort must go into a past which is already obsolescent, and less and less gets devoted to tomorrow with its promises and demands.

My basic contention, then, is that cost reduction is not a one-shot or a series of one-shot efforts. It is a part of a larger whole and will be a continuous output of a managed total program provided that:

A. Management's purpose is stated and understood;

B. The framework within which management operates (integrated logistics) is implemented at all levels;

C. The concept of management (the development of people) is a reality;

D. An authentic management value system is the basic determinant for decisions.

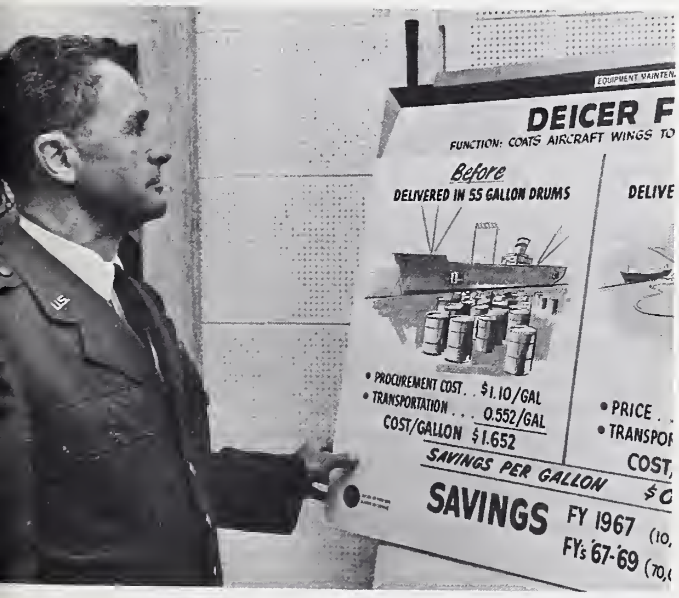
Without this or some comparable management approach, those interested in the viability of the Cost Reduction Program, or any other important program, are in danger of seeing their efforts wasted. ☐

SOME NEW OBJECTIVES FOR THE COST REDUCTION PROGRAM

By **LT. GENERAL ROBERT G. RUEGG**
Deputy Chief of Staff/Systems and Logistics, USAF Air Force Cost Reduction Program Manager

With the Cost Reduction Program now moving into its sixth year, it is appropriate for us to look toward the future and suggest some objectives which, when realized, will make the program even more meaningful and useable.

One change, of potentially striking importance, is already in progress. Secretary McNamara has directed that the program be expanded to include management improvement areas that will be measured on the basis of performance rather than dollars saved. This will plug perhaps the single biggest loophole in the current Cost Reduction Program—its inability to evaluate any area of management in which progress cannot be quantified solely in the form of dollar savings.



Lt. Gen. R. G. Ruegg, Air Force Cost Reduction Program Manager, reviews one of the savings examples displayed during Cost Reduction Week—fiscal year 1967.

We are all aware of many areas within the DOD logistic system that can benefit from the pressures of goals, periodic reporting, and audit validation, and yet which do not lend themselves to the necessarily rigid criteria needed to substantiate individual cost reductions. To the extent that the management improvement portion of the Cost Reduction Program will permit us to identify and give greater visibility to such areas, it should give those of us who are charged with managing the logistic system a series of extremely valuable new yardsticks.

However, since the new program is just now being implemented, it is too early for us to do more than welcome its introduction and express our hopes for its future. We should like to concentrate, in this article, on the existing Cost Reduction Program, in which we now have had 5 full years of working experience and to which we, the Air Force, have been the largest single contributor.

More Emphasis on People, Not Dollars

Most of the publicity we have seen about cost reduction these past years concentrated on the big dollar savings reported. Since the figures were so dramatic, perhaps this was to be expected.

We cannot help but feel, however, that too much attention has been focused on the dollar end of the program, and too little on the people who produce the dollars.

Of course, we have the Presidential Award Ceremony and, within the Air Force, our own inhouse annual award ceremonies for USAF and contractor personnel. We have, in addition, rather elaborate motivational programs within each of our 20 Air Force commands, intended to give recognition by top commanders to our people who originate outstanding actions.

Nevertheless, despite all the publicity we give such ceremonies and programs, despite all of the certificates presented by commanders and supervisors, despite all of the news items we run in base newspapers, this "Journal" and our own "Cross-Feed" publication, we still fail to reach the vast majority of those who show enough ingenuity and persistence to develop and report cost reductions.

Distinguishing the Exceptional

One reason for this failure is the tendency of supervisors to regard exceptional management as the norm. After all, the argument goes, we are paid to manage effectively; why pat someone on the back for doing what he is paid to do?

This reaction is by no means uncommon nor, indeed, is it necessarily wrong. (After all, I would hate to see the day when defense managers come to expect mediocrity as the norm.)

To put this another way, the military departments have been emphasizing the importance of tough-minded, imaginative management for so long that it is difficult to distinguish between that which (in the language of cost reduction) is "new, improved, or intensified" and that which is expected of us as part of our daily job.

Speeding the Feedback

A second reason for the failure to adequately recognize our people is the size and complexity of our reporting pipeline. This leads to the following problem, frequently mentioned to me during my field visits to our commands:

Too often, someone takes the time and effort to write up a cost reduction saving, submits it to the proper office, and waits to find out what happened to it, and waits, and waits, and waits . . . Too often, the originator hears nothing but vague and ominous rumors that an auditor up the line has questioned the computation, or a budget man has reservations about the funding, or a cost reduction monitor doubts whether it meets the criteria. Too often, the reported saving disappears into a void, and the originator hears nothing about it at all. And, too often, if he does hear, so much time has elapsed that the matter is completely academic, he no longer cares about it.

We recognize, of course, that we do have an elaborate reporting system, a system with many built-in checks and balances. We recognize that much of this complexity is needed to warrant the credibility of our savings (although I suspect that our layers of review are somewhat excessive). Nevertheless, we believe that anyone who reports a cost reduction has a right to know, within a reasonably short time, the disposition of his action. The Air Force has initiated an aggressive program to assure such quick-reaction feedback to the individuals at the far end of the pipeline.

We need the award ceremonies, the plaques, and certificates, and other kinds of recognition associated with the program. We also need more of a simple human touch, so that the people who participate in the Cost Reduction Program and who ultimately make it all tick, do not feel that they are involved in nothing but a vast mechanical labyrinth of forms and reports.

The Need For Program Stability

For quite a few years, whenever I thought I finally understood how the program worked, I was told "Yes, but the criteria have changed since then." This was frustrating enough in the Pentagon, where we are involved in proposed changes from their inception. If it was difficult for us to keep up with the program here, how much more frustrating must it have been to work the program in the field, where each of the frequent changes in policy and procedures had to be filtered through a host of intervening directives and echelons of command.

We have often thought that the greatest blow someone could strike for cost reduction would be to order a temporary but complete moratorium on all changes in the program. A case in point is our systems development where, in order to get a new bird airborne in time to be of use, we pick a moment and freeze the design. After that, any proposed change is carefully weighed against the offsetting delays it will cause in getting the aircraft into our inventory. We know that each change in the Cost Reduction Program is intended to help us. Nevertheless, my reaction increasingly is: "Please, no more help; let us live with it for a while as is."

Current Program An Improvement

We are delighted that the situation has improved recently. There have been relatively few significant changes or redirections since the program was overhauled in November 1966. This means that we do not face a new learning curve, and that our people, hopefully, can respond in short order to our fiscal year 1968 goals. Based on past experience, however, I cannot escape the uneasy feeling that, any day now, a paper will turn up in my in-basket saying, "Area V.C.4., is redefined as follows. . . ."

Of course, some modifications and adjustments are necessary in any dynamic program. We ask only that each of these is evaluated for need as carefully as is a design change in the development of a new system.

We should emphasize that we do not want, nor will we tolerate in the Air Force, a static program in which the bureaucratic routine of completing forms is substituted for continuing innovation and experiment. The very blood of the Cost Reduction Program is new ideas; if we stifle these, we have exchanged a vital program for a mass of unproductive paperwork. Rather, our point is that a simple, stable reporting system is the best vehicle for getting such ideas out in the open, where we can use and price them.

Making More Effective Use of the Cost Reduction Program

We are concerned that we are not getting as much mileage as we should out of the enormous contributions in time and effort put into the Cost Reduction Program.

For example, we often talk about the program serving as a guide to measure performance against established goals. In actual fact, how widely and effectively do we use the program for this purpose?

Frankly, in the early days of the program, we had some reservations about such a possible use for cost reduction reports. We were required then to report many savings "in bulk." Thus, we took credit for 25 cents for each dollar shifted from sole source to competitive procurement; we took credit for 10 cents for each dollar shifted from CPFF to fixed or incentive price contracts; we took credit for several hundreds of millions of dollars simply by subtracting our current year buy program for spares from our adjusted spares buy in the base year.

These were wholly valid savings, in the sense that they represented an aggregate of many individual management actions. But the very fact that they were an aggregate made it difficult to relate them to the performance of specific commands, units, or people.

The program criteria are now more immediate and, hence, more meaningful. Every saving we report, with the single exception of those generated by increased productivity, must be tied to specific management actions taken by specific units or people, and measured on a specific before-and-after basis. We can therefore use these savings as a legitimate indicator of how well we are doing our job.

Of course, this in turn presupposes a realistic assignment of goals. We are still a long way from regarding goal development as a precise science. Nevertheless, it is fair to say that we have come a long way from the flip-of-the-coin goals first assigned in fiscal year 1963. Ideally, a cost reduction goal should be an honest reflection of what a reporting activity can accomplish, given the resources at its disposal, the complexity and priority of its mission, and its demonstrated performance in the past. To the extent that we have valid goals, we should be in a position to truly measure the effectivity of performance.

We should like to see more study and consideration given to this significant potential of the Cost Reduction Program.

Crossfeed Important

Another byproduct that still remains largely untapped is the crossfeeding of good ideas within and among the departments and agencies. We all recognized, right from the inception of the program, that such crossfeed might well prove to be one of the biggest payoffs of cost reduction. Nevertheless, despite our best efforts these past 5 years, a satisfactory answer has yet to be found.

The problem is simple but logistically awesome; each year, tens of thousands of sound management actions—a great number of which lend themselves to implementation elsewhere—are reported in the Cost Reduction Program. How, without creating a monstrous papermill, can we exchange these so that other DOD activities may benefit from them? In the Air Force, we have a recurring publication called, appropriately enough, "Cross-Feed," which makes a good stab at the job. However, "Cross-Feed" at best can only scratch the surface; we have too many actions and too few pages. Many of our commands issue crossfeed publications of their own, and some make a practice of regularly exchanging individual reports of savings with other commands that have similar missions. All of these help, but are not the entire answer.

I am convinced that the paydirt is there, waiting only to be tapped. An action taken by a motor pool in Fort Carson, Colo., may be usable by our motor pool in Dyess AFB, Tex.; an action taken by a flight line mechanic at Seymour-Johnson AFB, N.C., may be usable by a mechanic at Pensacola, Fla. The problem of how to get the information across is difficult, but we refuse to believe it is insuperable.

No Alternative to Cost Reduction

Charges made against the Cost Reduction Program, however, really beg the question. The crucial point is that, in today's environment, there really is no alternative to cost reduction.

For better or worse, we live in an era of quantification; our management tools must be as sophisticated as the systems they govern. We cannot fly our new aircraft by the seat of our pants, anymore than we can manage the vast defense logistics system by intuition. Conversely, we can never abandon human judgment in favor of machine infallibility.

The true merit of the Cost Reduction Program is that it represents just such a mixture of man and machine. Its huge apparatus of numbers, reports, and publicity, its DOD-wide organization, its awards ceremonies at the White House—all of these ultimately derive from, and go back to, the man in the machine shop who takes a hard look at his requirements and says, "Hell no! I don't really need that extra wrench in my kit."

If we handle it properly, if we never forget that our chief aim must always be to fulfill our mission, and if we take advantage of the unique opportunity it gives us to gain additional resources for that mission, the Cost Reduction Program may well prove to be one of the most useful tools we have yet had to manage the defense forces of the United States. ☐

I. OPERATION IMPACT

PILOT TESTS SHOW HOW SBA's HELP CAN PACK MORE PUNCH

Design Assistance To Achieve Results

The Small Business Administration, with a battery of programs to help economically disadvantaged areas, has added one more new approach.

SBA calls it Operation Impact. In substance it masses not only SBA's own considerable resources, but those of every other government agency, community organization, or individual in an all-out attack on the economic ills of an area.

Operation Impact, which has been underway since July, is being currently tested in five carefully selected pilot areas of the Nation: The Gila River Indian Reservation in Arizona; Russellville, Ark.; Greensburg and Pikeville, Ky.; and the Warsaw-St. Lawrence area in Cincinnati, Ohio.

By **ROBERT C. MOOT,**
Administrator
Small Business Administration

The program is a revised approach to the administration of SBA programs. It is designed for maximum effectiveness, and is expected to minimize the risk of failure of all forms of assistance to small business.

Three principal considerations underlie the concept of the project:

1. That assistance to small business companies can achieve its best results when linked with privately developed and supported programs for the economic development of a community and its industries.
2. That all SBA assistance programs must be brought to bear so that each supports the other in the best possible combination to further the economic development of communities and its backbone of industry.
3. That each development program and related SBA assistance must be closely coordinated with other federal, state, and local programs which are working toward the objectives of a prosperous community.

The pilot test phase now underway in the five selected communities, however, carries much greater implications for the future administration of SBA programs. The test program should demonstrate the potential of such an overall approach once the results are evaluated.

It may help SBA formulate a new, better application of its programs.

The "Musts" For Success

Preliminary reports in the pilot test communities already demonstrate the following:

1. It is essential that program development be preceded by a careful analysis of community resources with emphasis on a realistic appraisal of the community's assets and liabilities as well as its potential.

2. Development planning must be based upon the full involvement of those persons and institutions in the community who exert the principal influences over the local economy. Ideally, the development plan will be formulated by the community itself; as a minimum, it must have the community's interest and strong support.

3. It is important to avoid unrealistic expectations which have little chance of success, even though this may reduce enthusiasm in some communities.

4. The potentialities of other Federal, State, and local programs, both underway and planned, should be fully exploited at both local and higher levels to further the local economic development programs.

A Look Ahead

Beyond Project Impact.—The concept of Project Impact has a sound basis in logic, in the light of significant differences in the rate and direction of economic change by geographic area and industry within the total U.S. economy. Assuming that preliminary results of the pilot test are confirmed by further experience, the implications for future management of SBA programs are clear:

1. Each loan team, each region, each area must develop a greater capability to assess the economic prospects of the local area assigned to it and to propose assistance programs best suited to the needs of its own small business community.

2. Assistance programs are not to be predicated upon economic plans developed by SBA alone, but upon locally developed plans which have sufficient prospects of success to warrant full SBA support.

3. A primary function of the director of every SBA-field activity is to act as a catalyst to insure that assistance furnished to small business is supported by the application of every available local, State, and Federal resource which can increase its chances of success.

4. While community support and potential payoff are likely to be greatest in depressed areas, the approach is applicable to all areas and industries—from boom town to ghost town—and should not be neglected even in temporarily thriving communities.

5. Each loan team, each regional director, and each area director will be expected to develop an assistance program which will specify:

a. The foreseeable economic prospects and needs of the locality under his jurisdiction;

b. The economic development programs underway or expected to be undertaken with sponsorship by responsible private and public agencies;

c. The estimates of the level of SBA assistance, by designated program, which will be required to support realistic development objectives;

d. The provision to be made to evaluate progress in relation to development objectives.

6. In short, the concept of Operation Impact can be applied progressively to the development and administration of every SBA program and to every industry and area to which assistance is furnished. Ultimately, the "impact area" must encompass all of the United States. ☐

THE ECONOMICS OF COMMUNITY RECOVERY

A Trilogy

Economically hard-pressed communities are described variously as—

- disadvantaged (by the Small Business Administration)
- distressed (by the Directorate of Small Business and Economic Utilization Policy in the Office of the Secretary of Defense)
- impacted (by the DOD Office of Economic Adjustment)

Three men who should know tell how their organizations are using new approaches to help many communities stay on their feet.

The Defense-Industry Programs for—

II. SMALL BUSINESS AND LABOR SURPLUS AREAS

DOD AND INDUSTRY TEAM UP TO HELP

Primes Have Strong Role

The Department of Defense, in the conduct of its six-part program structure[1] for small business and labor surplus areas, has Industry partners representing the scientific and industrial community who, with us, play a most important role in keeping our national defense economy viable. Together we form a joint Government/industry team, whose purpose and obligation, among other things, are to carry on the defense portion of the small business and labor surplus programs of the Federal Government. Needless to say, the DOD, as the largest procurement agency in the Government, with a $40.6 billion expenditure to U.S. business firms for procurement in fiscal year 1967, has need for strong "industry" players. The defense prime-subcontractor complex, with locations in every State, the District of Columbia, and Puerto Rico, furnishes the great bulk of the defense supply, operation and maintenance, service, and production needs of the Department. It is the industry "force structure" back of the Defense Force Structure.

The New York Times, in an article entitled "Military Spending Benefits Wide Areas of United States Industry," pointed out that while a list of the 100 largest defense contractors offers a very good indication of where the defense dollar initially goes, "the orders these companies receive are in turn channeled to thousands of subcontractors and the effect spreads throughout the entire economy."

A look at the dollars reflected in the two defense programs for small business and labor surplus areas bespeaks the fact that the cooperation between the Federal Government represented by the DOD and industry is a salutary and working one. New dollar highs were reached in fiscal year 1967 in prime contract awards: $8.4 billion, to small business; in set-aside awards, $1.9 billion, to small business; and in subcontracting awards by primes, $6.7 billion, to small business. In the labor surplus area activity, which on October 2, 1967, received Presidential emphasis and action to include the sections of concentrated unemployment and underemployment, prime contract awards, in fiscal year 1967, amounted to an estimated $2.2 billion, which flowed to 368 labor surplus areas in 37 States and Puerto Rico. While we do not get reports on subcontracting, it is estimated that well over $1 billion went out by prime contractors to labor surplus area concerns in this same fiscal year.

This cooperation between the DOD and the scientific and industrial community represents team effort at its best. In today's rough and dynamic environment in both the physical and social sciences, team play between Government and this scientific and industrial communty is necessary; and in the contractual implementation of our overall programs to assist small business concerns in obtaining a fair proportion of the Government's procurement and to assist labor surplus areas, particularly the ghetto areas, this team play is absolutely essential.

Mutual Government-Industry Respect Essential

We in DOD, at all procurement levels, and the scientific and industrial communities must, therefore, continually strive to achieve a closer relationship and a better understanding of our respective objectives, problems, and limitations in the conduct of these small business and labor surplus area programs.

This thought was especially well expressed in a talk given by the then Vice President, Lyndon B. Johnson, to a group of Government and industry officials. Because of the significance of his remarks, I would like to quote from that speech—and I quote:

"Over the past two decades, we have learned 'that the security of our free society required successful relations between government and industry . . . What this represents is a demand for closer cooperation and closer concern between industry and government—between private technology and public policy.' But this is a sensitive area in our system.

"The independence of private enterprise and the integrity of public policy must both be preserved and strengthened.

***By* ALBERT C. LAZURE, Director**
Directorate for Small Business
and Economic Utilization Policy

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[1] 1. Source development for prime contract awards. 2. Source development for set-aside awards. 3. Source development for subcontracting awards. 4. Procurement conferences (30 in 18 States in fiscal year 1967). 5. Counsel and assistance at 525 procurement centers. 6. Special projects and studies.

"We delude ourselves when we conceive the relationship between government and industry merely to be that of customer and contractor.

"We likewise delude ourselves when we regard the purposes of government as inevitably partisan and the policies of industry as inevitably anti-government.

"In both instances, the damaging consequences is a cleavage between government and industry in areas where there ought to be the greatest sense of common purpose and common understanding.

"The national interest is not served when government castigates industry for failing to see the broad view of national interest when no effort is made to communicate that broad view.

"Likewise, the national interest is not served when industry deplores government's lack of efficiency, lack of talent, or lack of business-like methods while withholding these capabilities from government . . . these times require government and industry to work together in a new climate of mutual trust, understanding, and common purpose.

"There are, for both parties, common problems and obstacles which can only be removed by this approach."

We are sure, and the record itself reflects, that the Government-industry team shares the fundamental views expressed by President Johnson in the quoted statement. The constant exchange of views on approaches and techniques which we have, both intragovernmentally and with industry, through their associations and through individual members, bespeaks the fact that we are attempting at all times to solve our common problems and obstacles. The legislative branch of the Government, through the Small Business Committees of the House and Senate, ask for, and receive, an account of our stewardship in these approaches and techniques as developed to meet these problems. They initiate through their recommendations many new approaches, and better ways to do our job. Our relationships with industry, and the joining with us at procurement clinics by other Federal agencies, such as SBA, NASA, Commerce, AEC, Post Office, Veterans, Interior, GSA, and many others reflect a desire to better our activities and relationships with the scientific and industrial community.

Defense Buying Has Big Impacts

Since the major emphasis in our programs for small business and economic utilization of labor surplus areas, and concentrated sections of unemployment and underemployment is through procurement actions, we constantly seek to develop new approaches, new techniques, and procedures. Our procurement activities form the basis for most of our statistical data.

We think, therefore, that it is well for all of us to reflect upon the sheer magnitude of defense procurement today—not to overwhelm one by its proportion—but, rather to recognize the impact and implications necessarily brought about by the size of defense procurement in this atomic and space age. Within the past 25 years, with the demands or threats of war on the one hand and the strides of science on the other, the Federal Government, and particularly the Defense Department and National Aeronautics and Space Administration and its prime contractors, has emerged as the principal buyer of goods and services, as a principal source of facilities and credit, and, all in all, as the most important single business factor in the entire national economy.

Secretary McNamara, in the annual "posture" statement to the Armed Forces Committees of the House and Senate and in the Defense appropriations hearings, recognized this impact. He brought out in one of his presentations to the Armed Forces and Appropriations Committees, as did the recent report to the President by the Committee on the Economic Impact of Defense and Disarmament, that defense and related activities (atomic energy and space) account for expenditures of nearly 10 percent of the gross national product of this country.

These defense/space procurement activities employ directly, or indirectly, 6.6 million Americans (or nearly one-tenth of the total employment in the United States). They are both military and civilian. In their locations in military establishments and in contractors' plants, they are engaged in every aspect of our economic life. These defense and related activities absorb half or more of every tax dollar, and have done so for over a decade. With peacetime budgets running at about $50 billion, and with such situations as Vietnam requiring "add-ons," there has come a realization that national survival can be at stake on either or both of two fronts: military and economic.

Thus, it is fitting and proper that in the development of our procurement policies we take into account certain economic factors. Indeed, it is a mandate of Congress and of the President that we in procurement give cognizance to many of them.

Mandates for Progress

Illustrative is the mandate set forth both in our Armed Services Procurement Act of 1947 as codified in 10 U.S.C. 2304 et seq.; in the Small Business Act of 1958, as amended; in section 618 of the DOD Annual Appropriations Act on the placement of defense contracts and subcontracts so as to give a fair proportion to small business; and in the recent (October 17, 1967) revision of Defense Manpower Policy No. 4 by the director of the President's Office of Emergency Planning covering the ghetto areas, now called "sections of concentrated unemployment and underemployment."

Illustrative, too, is the recent (October 2, 1967) memorandum of the President to the Members of the Cabinet and other agency heads, asking them to work with the scientific and industrial community to recruit, train, and utilize the hard-core disadvantaged. Surely the systems engineering abilities, the strength of the Government-industry team can break the back of this "personal unemployment underemployment" problem. Secretary of Labor Wirtz has said that the bringing back to society of 300,000 of these disadvantaged could reduce the unemployment level of this group which is from 9 to 18 percent to the normal underemployment rate for the entire Nation. This normal rate at the present time is in the neighborhood of 4 percent of the 76-million-person labor force.

A review of our Armed Services Procurement Regulation will show that the Department of Defense has taken an active interest in meeting this mandate. There are some 75 references or more running through these regulations covering matters of small business interest and a similar number covering labor surplus area interests. A look at the new Defense Procurement Circular No. 57 revising the Armed Services Procurement Regulation, 1–700 and 1–800, on the defense program for assisting the hard-core disadvantaged in the ghetto areas through the procurement process is illustrative of this activity and coverage in our ASPR.

Subcontracting—A Primary Interest

While we have six active programs to assist small business and labor surplus areas, a specific matter which is of primary interest is our subcontracting program. In this regard, a fact which probably is not well known, or, if known, is not given sufficient attention, is that roughly half of the dollars which we spend with the prime contracts are in turn spent by the primes through subcontracting with other suppliers. Hence, assuming that we in the Defense Department are meeting all of the requirements and the mandates imposed on us with respect to our prime contract awards to small business and labor surplus areas, it is still only half of the story. The burden of the other half is on industry to achieve these same objectives in its subcontracting programs and to thus share its rightful responsibility for the full implementation of the DOD small business and labor surplus programs.

Means and Ways

How do we in DOD and industry team up to do this? Pursuant to national and defense policy, our procurement regulations provide for contract clauses under which prime contractors obligate themselves to use their best efforts to carry out a program to develop and utilize small business and labor surplus area concerns.

In contracts in excess of $500,000, which offer a substantial subcontracting opportunity, the best efforts approach to be used is spelled out in some detail so that, on execution of the contract, the contractor obligates himself to:

1. Designate a small business and labor surplus liaison officer to maintain liaison with Government small business representatives, supervise compliance with the clause, and administer the contractor's program.
2. Adequately and time consider the potentialities of small business and labor surplus area concerns in all make-or-buy decisions.
3. Assure that small business and labor surplus area concerns will have an equitable opportunity to compete for subcontracts by arranging solicitations, time for the preparation of bids, quantities, specifications, and delivery schedules so as to facilitate the participation of small busines and labor surplus area concerns.
4. Maintain records concerning the size status of prospective subcontractors and the extent to which small business was solicited for subcontracts over $10,000.
5. Submit reports in the case of small business to the Government regarding subcontractors. (The reporting requirement is not included in the labor surplus subcontract clause by reason of the shifts in areas and burden on a prime contractor in maintaining report-type data.)

DOD has 816 contractors who reported on the small business programs of this type in fiscal year 1967. Through our small business/labor surplus specialists at the eleven Defense Contract Administration Services Regions and at the plants in which the military departments have retained cognizance, we are surveying and reviewing their programs to see how they meet this fivefold obligation in both areas.

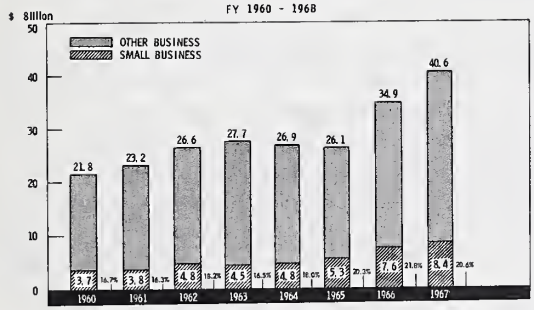
What else are we on the Government-industry team doing?

In the early months of 1963, the DOD and Small Business Administration jointly considered what additional steps could be taken to improve the effectiveness of the small business subcontracting program. It was concluded that industry could make a greater contribution to the success of this program. Accordingly, the Voluntary Subcontracting Referral Program began in May 1963, at which time the top 25 companies receiving the highest net value of prime contract awards were invited to participate in this program to utilize SBA referrals in procurements where small business sources were lacking. In December 1964, invitations were extended to the 10 next highest. This program is a joint effort by the DOD and the SBA to extend and improve the effectiveness of the Defense Small Business Subcontracting Program set forth in the Armed Services Procurement Regulation. It is being stepped up to include an additional group of twenty-five more contractors.

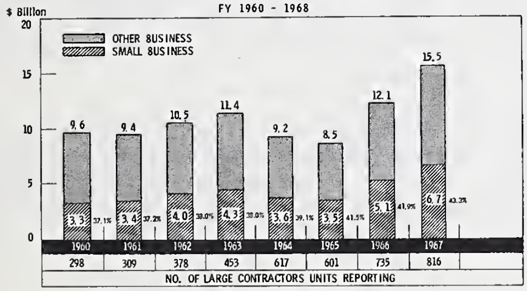
In order to accomplish the maximum benefits, we felt that each party to this voluntary agreement should concentrate its efforts in specific areas to achieve maximum results with a minimum of personnel and cost. The basic principle of the voluntary program was developed to provide major prime contractors in need of new or additional subcontract sources the assistance of the SBA. By using its inventory of small business firms, those potentially qualified are submitted to the prime contractor for use in solicitation of competitive bids. We feel that this activity has provided mutual benefits in the form of more participation by small firms in the purchases of our major prime contractors.

A similar referral program was initiated jointly with the Aerospace Association and Small Business Administration for referral of labor surplus area concerns, and has been effect since 1964.

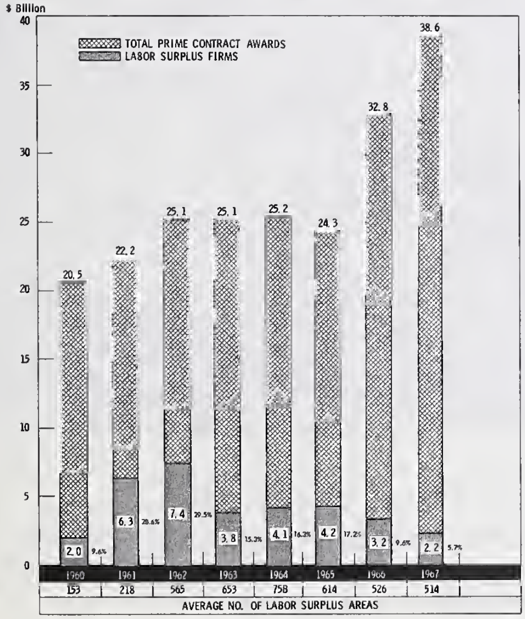
NET VALUE OF AWARDS TO SMALL BUSINESS AND OTHER BUSINESS FIRMS
DEFENSE PRIME CONTRACTING
FY 1960 - 1968



DEFENSE SUBCONTRACTING
FY 1960 - 1968



DEFENSE PRIME CONTRACT AWARDS TOTAL
AND TO FIRMS IN LABOR SURPLUS AREAS
FY 1960 - 1968



Another item of interest, particularly to our prime contractors, is the "weighted guidelines" method of negotiating profit, including fees, under new cost reimbursement and incentive contracts. Here we give specific weight to a number of factors including the small business and labor surplus program activities of the contractor as reflected in past performance data. Our regulations provide that the contractor's policies, procedures, and activities which energetically support government small business and labor surplus programs should be given favorable weight and consideration in profit negotiation. Any unusual effort which the contractor displays in subcontracting with small business and labor surplus area concerns, particularly for development-type work likely to result in production opportunities, and overall effectiveness of the contractor in subcontracting with, and furnishing assistance to, such concerns, should be considered. Conversely failure or unwillingess on the part of the contractor to support DOD small business and labor surplus policies should be viewed as evidence of poor performance for the purpose of establishing the weight of this element of the profit objectives. This technique is more and more coming into use.

A Look at the Record

Let me conclude by saying that the real proof of any joint program is how it works. In this regard, we believe that the DOD/Industry programs for small business and labor surplus areas are good ones. In fiscal year 1967, the reports made by 816 reporting contractors show that of subcontract commitments totaling $15.5 billion, small business received $6.7 billion. This amounts to 43.3 percent of total subcontracts as compared with 39.1 percent in fiscal year 1964 and 41.5 percent in fiscal year 1965. This is the highest percentage of subcontract awards to small business firms since 1957 when reporting was initiated. In the labor surplus area our results are similarly good. The two charts show the record graphically.

In our judgment, this indicates clearly that the team established to help small business and labor surplus area concerns get a larger share of Government prime and subcontracts—DOD and its procurement agencies, its prime contractors, the Government agencies (particularly SBA) and the Senate and House Select Small Business Committees and their staffs—is doing a job successfully and effectively.

Cost reduction has not been overlooked in the conduct of the prime and subcontracting programs. As a matter of fact, the development of new prime and subcontract sources and the increased competition derived therefrom has led to cost reduction while at the same time meeting the objectives of the program. Contracting with small business and in labor surplus areas *is* cost reduction in action. ☐

Meeting the Challenge of Change Through—

III. THE DEFENSE ECONOMIC ADJUSTMENT PROGRAM

A Recovery Strategy

In the spring of 1961, Secretary McNamara established an Office of Economic Adjustment at the request of the President. Since then the sole mission of that office has been to offset adverse economic impacts caused by changes in Department of Defense programs. To date most of these impacts have involved military installations scheduled to be closed. A few impacts were caused by changes in Defense contracts.

A successful economic adjustment project is expected to produce initial benefits which offset the losses due to the closing of a base. It is expected to be self-renewing, also, and to go on creating additional benefits indefinitely.

The Office of Economic Adjustment responds to invitations for assistance from responsible community leaders. It does not impose its presence or its interest upon any community. The Office deals only with communities that want to be helped.

The Office has two initial responsibilities: (1) It must perceive the economic, social, and personal factors which will influence the course of the recovery program; (2) it must persuade the community and its leaders that recovery is possible through their own efforts, and that the rewards to the community will be worth the intensive effort involved.

The Office, in concert with community leaders, creates a development strategy for the recovery program. Since development strategy is built on the framework provided by the salient features of the community situation. it is valid only to the extent that the situation was assessed correctly.

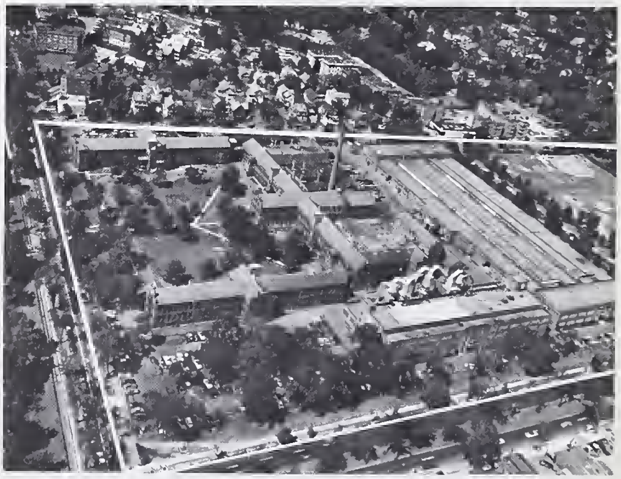
Enlisting Support

Coincident with the organization of the community recovery program, the Office and the community leaders begin to develop a community organization which is representative of all important local elements, and to reach out for State and Federal support. The Office of Economic Adjustment brings appropriate Federal experts to the community through the cooperation of the General Services Administration, the Departments of Commerce; Labor; Interior; Agriculture; Health, Education, and Welfare; Housing and Urban Development; the Federal Aviation Administration; the Small Business Administration; etc. Community leaders invite the State counterparts of these Federal officials. From these meetings grow firm plans for base utilization in the community interest, and identification of Federal, State, and local funds and programs which can advance the recovery plan. A working partnership of local, State, and Federal activities becomes a reality.

Some communities can do more for themselves than others. The Office of Economic Adjustment:

- Tries, through its own staff and the help of experts from other Federal agencies, to fill the gaps in local and State capabilities.

Private manufacturing now employs 1,000 in Federal Square of Springfield Armory, where 1,000 civil service employees formerly worked for the Army. DoD activities at the Armory will not be fully closed out until April 1968, however.



By DONALD F. BRADFORD
Director, Office of Economic Adjustment
Office of the Assistant Secretary of Defense (Installations and Logistics)

- Suggests civilian uses for surplus military installations.
- Helps a community to develop sound base-use and area plans and to find its way through confusing (to the uninitiated) government regulations and public laws dealing with acquisition and employment of the property.
- Provides sound advice on the techniques of industrial development.
- Serves as the coordinator, the troubleshooter, and the community's Washington office, for the duration of every recovery project, handling a thousand and one details and problems as they crop up.

Novelty Now Commonplace

Acceptance by the Department of Defense of respon siblity for economic problems caused by its programs was a novel idea in 1961. Since then the Office of Economic Adjustment has pioneered numerous concepts, many of which are now commonplace policies in business or government.

For instance, the personnel policies of the Department of Defense were not responsive to the problems of individual Civil Service employees caught in the turbulence of base closures. If an employee's job was transferred to another location, he accompanied it or was fired. If his job was abolished, he was fired. Efforts to help displaced employees find other jobs were local and sporadic.

The Office early turned its attention to discrepancies in personnel policy as they affected base closure situations. It found personnel officers at all levels eager to improve the situation and Secretary McNamara anxious to back them up. After a series of conferences with personnel officers and experience at several closing bases to define the problem, new policies were adopted. Once the objectives were identified and the improvement program aimed properly, the Office of Economic Adjustment withdrew and the personnel officers have continued the development thus initiated.

Job Guarantee

Today, every career employee caught in a base closing is guaranteed at least one opportunity for another job, whether or not he chooses to accompany his old job to another location, whether or not his old job is abolished. (In practice, most employees receive more than one job offer, and a choice of several locations.) Job placement efforts are made on a nationwide basis through central, computerized referrals. Moving expenses of an employee and his family are paid to jobs with the Department of Defense at new locations. Generous severance pay, based on length of service, is given to employees who choose to leave the Federal service for employment in private industry. Early retirement is encouraged when this is the best solution for the employee.

In short, the Department of Defense personnel practices in base closure situations can serve as a model for other Government agencies and some private industry. Aptly, they have been called, collectively, the "responsible employer program."

All Governmental Levels Cooperate

The Office of Economic Adjustment has long preached and practiced the principle of cooperative action by Federal, State, and local governments, and civic and business organizations. At Presque Isle, Maine, for example, in 1961, the Office helped the community to acquire Presque Isle Air Force Base through discount programs of DHEW, FAA, and the Department of the Interior, arranged with GSA and the Air Force to leave surplus equipment which contributed to productive civilian use of the base, brought the community and the Area Redevelopment Administration together in a loan to a manufacturer who wished to locate on the base, went to the Governor and the legislature to obtain authorization for a vocational-technical school on the surplus base, and worked closely with the Maine congressional delegation to smooth the transition. This formula has been used successfully many times since, proving over and over again that organized cooperation pays off, and that the Federal Government can lend a helping hand without encroaching upon local and State interests.

Local Involvement

The Office of Economic Adjustment has advocated, from the outset, local involvement of the beneficiaries of a program in its development and control.

The principle of local involvement pays off for both the Government and the community. At community level, an action program that succeeds must receive the personal attention and the direct support of the community leaders, the first team. This first team must include business and financial leaders—when they are involved, things get done. At the Federal and State levels, the involvement of community leaders frees officials and technicians to devote their limited time to the things the community cannot do for itself. This improves the quality of Government support and allows it to be provided to a greater number of communities than would otherwise be possible.

The Total Community Approach

The Office constantly urges the upgrading of the community environment, from clean-up, paint-up, through improvement of educational, health, and service facilities, to development of recreational, historical, and cultural resources. It urges, too, a balanced mix of

The author (seated fourth from left) chairs The Presidential Task Force on Utilization of Glasgow AFB, Montana, shown here meeting with community leaders. The Departments of Defense, Labor, and HEW, as well as The Economic Development Administration and The Federal Aviation Administration, are represented on this task force.

public and private enterprise. The total community approach is the best means for creating an attractive basis for economic development. The conversion of Schilling Air Force Base at Salina, Kans., to airport, educational, medical, and industrial use, and the extension of the process to the economic development of the entire area illustrate this principle well. Salina is now in the stage of improving its recreational and cultural facilities to meet the demands of the many persons who have come to town to work for the new industries and other activities brought in under the economic adjustment program.

As part of this approach, the program has always stressed that payroll generation is something that cannot stop at arbitrary political boundaries. This has resulted in greater strength emanating from multijurisdictional consortiums, with a viable unit—usually the population center or area leadership—providing the central capability to carry out the programs.

The Early Warning Concept

Early warning of impending economic change was a concept adopted in 1961 by the Department of Defense. As related to installation changes, the warning is given by announcing the base closure date months or years in advance. This gives the Office of Economic Adjustment time to work with the impacted area on matters of organization, development strategy, feasibility of programs, action and follow through. Several communities have taken full advantage of this opportunity, notably, Harrisburg, Pa., where concerted effort by local, State, and congressional interests, in partnership with the Federal team, has resulted in a viable adjustment program two years before the closeout date of Olmsted Air Force Base. By 1967, the State was already using the base jointly with the Air Force and had placed in operation there a regional jet airport, a new campus of Penn State University, and an industrial park. Waco, Tex.; Mobile, Ala.; Springfield, Mass.; and Port Clinton, Ohio, are other illustrations of alert, energetic community actions, prior to the closing date.

(Interestingly, the Office has discovered that some communities do not take full advantage of long phase-out periods. They refuse to worry about events too far in the future. If it is a base closing, they conclude that the situation will change, politically or militarily, and that the base will not close. Such conclusions have been wrong—because the Department of Defense determines its needs strictly on a military basis, and considers all possible military contingencies before deciding to close a military installation.)

Rural Problems

Many military installations are located in rural, sparsely populated parts of the country. When the Department of Defense closes a military installation, it causes, not unemployment, but outmigration. Outmigration is, of course, the chronic complaint of the agrarian economy of today, and a base closing compounds the problem. In one rural area, the closing of the military base, if alternate payrolls are not found in time, will reduce the congregation of one modern new church to four family heads—four individuals to shoulder the new mortgage!

The Office of Economic Adjustment attacks the problem by encouraging those actions which will build up an assured labor force—notably the creation, with Federal and State help, of vocational-technical educational facilities, ranging from Manpower Development and Training programs, as interim measures, to the establishment of institutes and universities as permanent solutions. Industry, today, is hungry for skilled productive labor. Assurance of an ongoing supply of trained labor will often cause an industry to overlook the locational disadvantages of a rural area. This principle has been proved in Salina, Kans.; Hastings, Nebr.; and, of course Presque Isle, Maine; and is being confirmed in Roswell, N. Mex., and Sidney, Nebr.

Hopefully, with growing emphasis upon community improvements of all sorts, the time wil come when agricultural regions will attract people from the overcrowded central cities. At the very least, such creation of economic opportunities in rural areas will slow the migration from countryside to city.

The farmers, themselves, recognize the problem and are willing to spend time, money, and energy to solve it. The rural counties around Hastings, Nebr., banded together and their citizens voted overwhelmingly to tax themselves to establish a vocational institute in the buildings of the former Hastings Naval Ammunition Depot. In western Nebraska, near Sidney, farm families have developed an imaginative proposal for use of the ammunition igloos of the Sioux Army Depot for hog production. The hogs will spend their growing days in the even temperature of the igloos, their food conveyed to them through one set of conduits, while the waste is carried away to an oxidation ditch.

The Office of Economic Opportunity has furthered community objectives where Job Corps use of surplus military bases is appropriate. Today, successful Job Corps activities are operating on former bases at locations such as Moses Lake, Wash. and San Marcos, Texas. There has been some thought, probably as a result of these experiences, that the rural atmosphere might, in itself, be educational, and might lead some of the graduates to choose the countryside over the city as the place to live their lives. The nature of the facilities available at surplus military installations has led to suggestions that family training centers are practical.

Diversification—Defense Against Dislocation

The Office of Economic Adjustment likes to point to the value to a community and the Nation's taxpayers of using surplus military installations to advance educational, health, and recreational programs of all sorts—thus allowing more of the Federal and State money available for these things to be spent on people rather than on buildings and equipment. This thought early prompted the Office to establish special procedures and policies which would prevent unnecessary dismantlement of surplus bases. Installed equipment and other equipment related to the use of the base in the community economic plan is held in place to the extent possible without denying valid military needs for the equipment.

The Office of Economic Adjustment has urged diversification of products upon both industry and communities since the beginning, and always stresses the dangers of overdependence upon defense spending. It is almost impossible to predict whether or not a particular manufacturing company whose resources are devoted to defense production will grow, remain stable, or wither. The health of the company will depend upon its ability to compete for defense contracts. It is certain, though, that fluctuating defense requirements do result periodically in reduced demand, which in turn reduces the number of companies which can be engaged in defense production. Some companies must, then, fall by the wayside, if they are wholly, or mostly, dependent upon defense contracts.

It is easy, therefore, to recognize company or community situations which can lead to economic trouble. If either company or community has all its eggs in the defense basket, it is a nominee for trouble, unless its products and services are unique and unobtainable elsewhere. No specific warning is needed for those who are overly dependent upon defense work; they have learned by now that the history of defense spending is up and down. The solution to their problem is, of course, diversification, and fortunately, more and more of them are coming to recognize this fact. Psychologically, a defense installation in many cases has been a palliative, stifling community effort toward growth in the civilian sector of the economy.

Federal Teamwork

Other Federal agencies have joined in the work of the Economic Adjustment Program:

The General Services Administration, as the disposal agent for the Federal Government is in a key position to help. It determines prices for purchase of the surplus property. Its concurrence is necessary for conveyances of surplus property under educational, health, airport, or recreational discounts.

The Department of Commerce through its Economic Development Administration can often finance technical studies to determine the feasibility, from an economic standpoint, of various proposals and to recommend the concrete actions which should be taken. It has helped in this respect in places such as Moses Lake, Wash.; Port Clinton, Ohio; Edgemont, S. Dak.; Rome, N.Y.; and Springfield, Mass., and contemplates additional studies.

The Department of Health, Education, and Welfare, maintains constant liaison with the Office of Economic Adjustment and has been instrumental in establishing and developing educational facilities on former military bases at Moses Lake, Wash.; Salina, Kans.; Sidney, Nebr.; Toledo, Ohio; Reno, Nev.; Springfield, Mass.; Roswell, N. Mex.; and Lake Charles, La., besides investigating the possibilities at many other bases.

The Department of Housing and Urban Development (now and under its old name, Housing and Home Finance Agency) has prepared comprehensive economic and housing studies in most of the communities in which the Office of Economic Adjustment is working—some on request, most as part of its continuing program. It has provided the beginnings of a bus transportation system in Rome, N. Y., where the Air Force closed a depot, and has helped with the archeological assessment of historical assets there. It has cooperated in holding housing off the market in impacted areas to permit the local real estate market to recover. Its urban renewal and public works programs have been of inestimable value to communities hurt by base closings.

Federal Aviation Agency programs have enabled communities to establish municipal airports and compatible air parks at former Air Force bases throughout the country, with important results in stimulating the economy.

The Departments of Labor, Interior, and Agriculture have provided detailed technical advice in their fields, and the Department of Labor has planted educational seed corn with its Manpower Development and Training programs.

The assistance of these agencies has permitted relatively smooth handling of complex procedures. Their overview has permitted resource development to begin early and decisions on development strategy to be carried out.

Congressional cooperation has been sophisticated and statesmanlike.

The military services have practiced total commitment to adjust to community needs within the limits of mission requirements.

The Office of Economic Adjustment keeps its eye on all aspects of each recovery program, ready to use its powers of persuasion or to apply its knowledge to the advancement of the program, or (as is occasionally necessary) to referee disputes among competing claimants for the surplus property and to turn the disagreements into acceptable compromises.

The People Response

This bare outline of the principles and techniques of economic adjustment leaves out the warm and intensely interesting interplay of human relationships. Yet it is the human attitudes and reactions which really spell the difference between success and failure in an economic recovery program. A community on the move often has no more in tangible assets and expectations than a community stagnating in an atmosphere of defeatism—except the "can do" attitude of its people.

The story of Economic Adjustment in some 62 communities in 32 States is the story of a no-nonsense effort by men of goodwill in a position to do something about it, at all levels of government, finance, and business. It is total commitment of leadership; overview rather than parochialism; sweat; hard-nosed assessment of alternative courses of action; aggressive argument among friends; interminable detail and constant follow-through; and a conviction that good people, acting in the worthwhile cause of overcoming disaster, can accomplish just about anything. ☐

WET BOXES NO HINDRANCE

Damp boxes are not the best containers for Mark 24 aircraft parachute flares. That is why the Air Force planned to buy plastic bags in which to encase the boxes and thus shut out the moisture seepage induced by the wet, humid climate of Southeast Asia. However, the scheduled purchase of these bags for $649,600 was canceled—and therein lies a tale.

Value engineers of AFLC's 2705th Airmunitions Wing found that each flare is packed in an aluminum canister and that two canisters are packed in each polyethelene box. They also found—by study and test—that these canisters were impervious to any moisture collecting in the boxes. Result: No need for further protection. However, one of the VE types—obviously the owner of a leaky boat—has suggested boring holes in the bottom of the boxes to let out the water.

NORWAY HONORS NAVY COST REDUCER

Now and then we hear a nice story that has nothing to do with cost reduction except that it happened to a cost reducer.

Seventy-six years ago the 1,114-ton Norwegian bark *Diktator* sank just off Virginia Beach, Va. Most aboard drowned, including the captain's wife and young son. The captain, though last to leave his ship, survived.

The townspeople of Virginia Beach recovered the ship's figurehead (a Norwegian Lady) and erected it as a statue to commemorate the loss. Each year until his death, the captain crossed the ocean from Norway to pay his respects at the statue's site.

Time and weather took their toll until 1953 when the disintegrated figurehead was removed.

All was almost forgotten until our man in the Program—Thomas Goode Baptist of the Navy Department's Cost Reduction Office—published an article about the Norwegian Lady in a Norwegian shipping magazine. Result: Moss, Norway—the home port of the *Diktator*—carved two new statues: one for Virginia Beach and one for itself. Both were unveiled the same day—September 22, 1962.

A few months ago Norwegian Consul Ralph Williams (center in photo) pinned the Royal Order of St. Olaf Medal on Tom Baptist for his role in reviving the Norwegian Lady.

The Loneliest Man in the Military is the Man With a *NEW IDEA*

By Dr. CHARLES F. AUSTIN,
Assoc. Professor of Organizational Behavior and Business Administration,
The American University

If we examine this statement objectively, there is ample reason to believe that it is all too true.

We talk of management tools today. The most neglected and improperly used management tool, in my opinion, is the suggestion program.

It is a fact of life that the best ideas don't reach fruition through command channels. The very nature of our military relationship actively works against radically new ideas, believe it or not. A case in point: Tomorrow morning your immediate subordinate may come to you with a new idea, a radically new idea. If you are typical (and you are, whether you want to be or not) you will either pour cold water on it or "damn it with faint praise."

Ideas Face Hostile Course

Your subordinate with the new idea has only two alternatives. One, he can take the idea up with you again, and risk your ire by appearing to disagree with your prior judgment. If he does this you will probably set him straight in no uncertain terms—and that will be the last new idea you ever hear about from him.

The above article selected from the award-winning book, "Management's Self-Inflicted Wounds: A Formula for Executive Analysis" is reprinted with the kind permission of the author and the book's publisher, Holt, Rinehart & Winston, New York, N.Y. Reprint of this article from the Journal is not authorized. The author is best known in military circles as "Chuck" Austin, Colonel U.S. Army (Retired). A former faculty member of the Army Management School and the Industrial College of the Armed Forces, Dr. Austin is the recipient of the Legion of Merit for his distinguished contribution in enhancing the executive abilities of military officers and senior civilian personnel.

Two, your subordinate can put his idea on paper, and drop it in the nearest suggestion box. The suggestion will then be forwarded to you for evaluation, since it pertains to your organization. You are filled with consternation when you realize that your subordinate has bypassed you, and you become even more concerned when you remember that you have already expressed an opinion to him on the idea.

You realize you must reprimand him, for his own good, which you do very earnestly. You may even order him to prepare the endorsement recommending non-adopting of the suggestion. This is real poetic justice, and the second alternative available to your subordinate will have the same result: it will be the last new idea he attempts to sell while he is with your organization, or perhaps with any other.

Another thing which will kill a new idea—and prevent future ones from even being submitted—is inept and subjective suggestion evaluation. It seems to be a fact of life that people resent suggestions for improvement in their own organizations because they regard them as criticisms of existing situations, for which they feel at least in part responsible, or guilty. Let's take a couple of horrible examples.

At one large military post, a suggestion was submitted that employees in post exchanges wear nameplates, enabling customers to perform the common (and very desirable) courtesy of addressing them by name. The suggestion was rejected for the ridiculous reason that such an action "would cause overfamiliarity with employees."

A suggestion that a drinking fountain be installed near a tennis court was rejected because "The suggestion has been given serious consideration and it has been decided that if a drinking fountain were installed a latrine would also have to be installed and a latrine by a tennis court would be undesirable."

The disgusted suggestor was then counseled by his wife to resubmit the suggestion with the obvious solution: That the drinking fountain be installed without the latrine, and that a sign be placed over the fountain reading, "For Intake Only!"

Dr. Charles F. Austin (Colonel U.S. Army, Retired).

The Man With a New Idea

Both the nameplate and drinking fountain suggestions went through the complete evaluation process and were rejected by the suggestion committee, as indicated in minutes signed by the chairman!

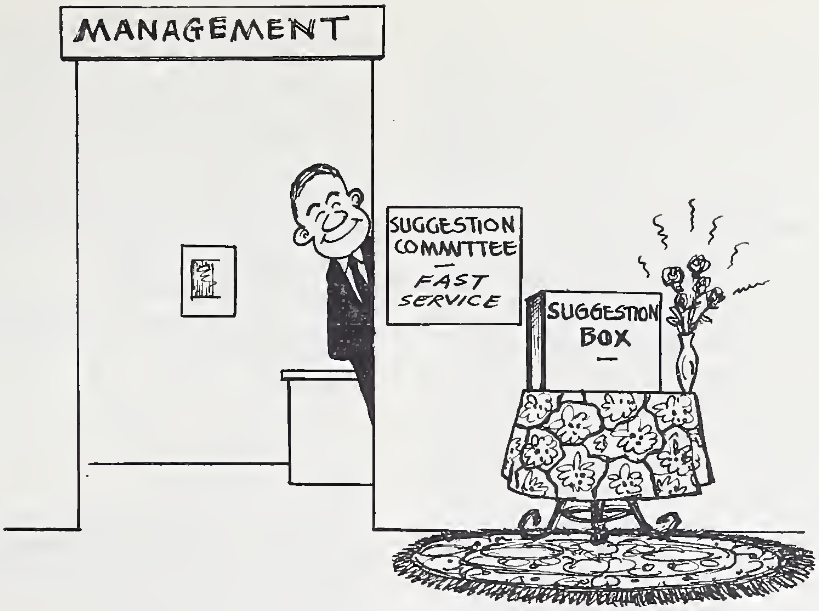
Fortunately the suggestor of the "nameplate" idea had a temper. He promptly put the same suggestion on a fresh suggestion form and mailed it direct, marked "personal" to Maj. Gen. H. C. Parks, Director of the Army and Air Force Exchange Service. The suggestion received careful appraisal and was adopted for all exchanges in the Army and Air Force (at the discretion of major commanders). I'm afraid, however, that this is the exception rather than the rule.

How To Save Ideas

What can be done to lower the mortality rate of new ideas in the military? It is a most difficult question, but I may have a partial solution.

One way is to improve the suggestion program, which is easier said than done. I recently interviewed an installation commander who inherited a dead suggestion program and in a short period of time converted it into such a dynamically successful program that it was given departmentwide publicity. Based on his experience, my own 2 years' experience as chairman of an installation incentive awards committee, and interviews with other personnel involved with successful suggestion programs, I have come up with some criteria which may help installation commanders evaluate and improve their own suggestion programs:

1. Put "top management" on the suggestion com-



How To Save Ideas.

mittee. Since service on the committee is an additional duty it is easily sloughed off by missing meetings and/or sending a section representative who is considerably less than inspired by being volunteered for something when he has a full "in" basket. The general staff in Army (G1, G2, G3, G4, and Comptroller), and comparable individuals in the other services should all be members, by name, and not by position.

2. Don't delegate the power to disapprove a suggestion any lower than the power to approve one. There is no more important criterion than this, and probably none that is violated more often. My best example of the observance of this rule is a major general, chief of staff of a major command, who reserves to himself the right to disapprove, as well as to approve suggestions. I contend that he has insured careful and objective suggestion evaluation, even if he doesn't even read the disapproval he signs.

3. The program must have the commander's personal support, and this doesn't mean lip service. It must be a fact, and it must be common knowledge among all personnel in the command. An action often regarded as lip service is the presentation of awards in the commander's office, rather than in the office of the suggestor and in the presence of his superiors, peers, and subordinates. The latter approach is worth dozens of times the value of the former, if it is done sincerely. And it doesn't take any more of the commander's time if it is carefully planned.

4. Suggestions must be processed rapidly. Nothing will discourage an enthusiastic suggestor sooner than to have to wait months to get results on his suggestion. I know of a post where the suggestion has been sarcastically made that effort be made to process suggestions some time during the present tour of military personnel submitting suggestions.

5. The integrity of the program must be carefully guarded. This sounds obvious but it is difficult. In fact, it takes a lot of courage to administer a truly objective and honest program. Reversing a subjective initial evaluation by an organizational element requires knowledge and ability. One aid in doing this is to call upon the services of the management assistance group (sometimes called management engineers) usually located in the Comptroller's Office. Another pitfall is the old (and despicable) practice of recommending disapproval of a suggestion making it stick, and then putting the suggestion into effect. This must be watched carefully, for it will give the program a dishonest reputation.

6. When in doubt, adopt. The net result of adopting borderline suggestions will be beneficial. A truism of suggestion programs is that the benefits from the programs vary in direct proportion to the number of suggestions submitted. This, plus the additional fact that a well-administered suggestion program will generate increased participation, makes it incumbent upon the commander that suggestors receive the benefit of any doubt.

There are other criteria for a good suggestion program, but if a commander can insure these six, I feel he can be reasonably sure he has a good suggestion program. The task of measuring his program against these criteria is not easy, and he must do it very carefully, enlisting objective aid when necessary.

I'd like to add this statement of fact: The best ideas in existence at your installation have not been adopted. They probably haven't even been put in writing!

More Is Needed

I regret to state, however, that a good suggestion program is only a partial solution to the problems described in the first part of this article. What can be done to create a climate in a military organization which encourages offering and support of new ideas (especially radically new ideas)?

This question is as difficult as any command, management, or leadership problem facing a military commander today. I don't know anyone who has a completely good answer to it. Let's explore it a little.

We are talking about an organizational climate where individuals feel motivated to think creatively, and where they and their superiors feel motivated to actively and vigorously push and sponsor a new idea until it is either adopted or proven to be not useful beyond any reasonable doubt. This would be a wonderful atmosphere—one in which we all would like to serve, but in which few have served. As stated earlier the very nature of military relationships works against this atmosphere.

The single concept of "You must go through channels," ever-present at all levels in the military, is perhaps the greatest single barrier to effectiveness and efficiency of management that was ever self-inflicted by man. I don't see how we will ever have the desired atmosphere until the concept of that false and artificial barrier is exploded for the myth that it is. I make no attempt to assess the value of channels in combat or tactical operations, but I think someone should.

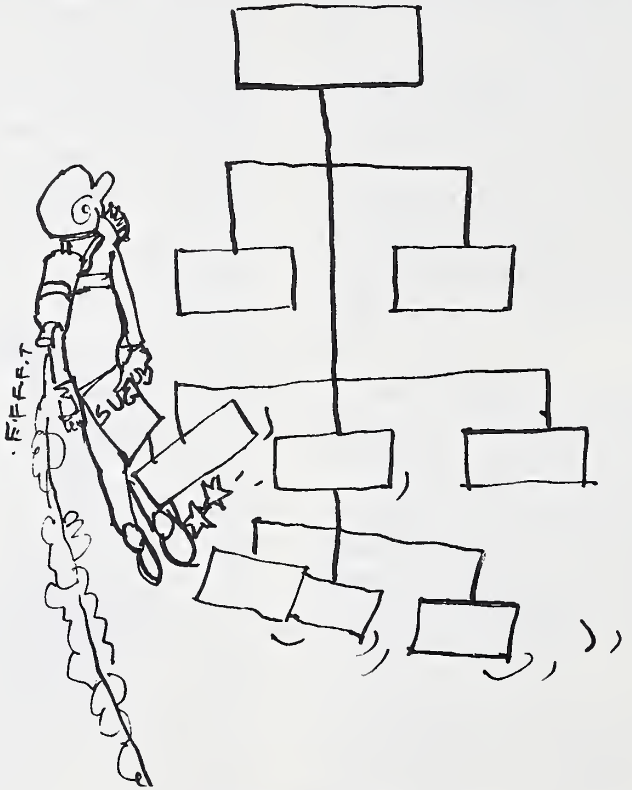
In the meantime, if you would like to have a couple of questions for sampling the atmosphere in your present organizations, ask this one of anyone in it. "Do you feel free to propose a new idea, regardless of the subject, to a supervisor two, three, or four echelons above you without taking it up first with your immediate and intervening supervisors?"

Ask the next one of higher level supervisors: "Do you encourage lower level supervisors or employees to communicate new ideas directly to you, bypassing intervening supervisors?"

Obviously, the answer you will get is, "No, of course not, I'm in the military. Haven't you ever heard of military channels?"

Here's another question that will bother you. An eminent university professor after much research has determined that over half of all good ideas that reach fruition are turned down six times before they are adopted. The question that you can't possibly answer with an honest "yes" is: Do the military personnel in your organization feel free to press on with an idea through six successive rejections?

There is a one-in-a-million chance that there is such an organization in the military. If yours is such please let me know. I'd like very much to research it. ☐



More is Needed.

Research and Engineering Information is Recovered Fast and Economically at the Defense Supply Agency's

DEFENSE DOCUMENTATION CENTER

A DEPOSITORY FOR SCIENTIFIC, TECHNICAL, AND MANAGEMENT REPORTS AND DATA

Quick Information Retrieval

What are the fire hazards when shots from small arms hit auxiliary fuel tanks? A troop carrier wing in Vietnam needed the answer quickly. Studies had been made of this problem, but where were the reports now? How long would it take to get them?

Someone suggested that the Defense Documentation Center (DDC) in Alexandria, Va., might have the reports. The suggester was right. Within 24 hours after being asked, the DDC dispatched a bibliography to the wing in Vietnam.

This kind of speedy, responsive retrieval is DDC's regular business.

DDC's "Banking" Services

DDC is the central facility of the Department of Defense for the secondary distribution of scientific and technical reports generated by Defense-funded efforts in research and development. The Center also operates computer-based data banks of management and technical information and is responsible for the development of information storage and retrieval systems. The services offered are available, without charge, to Defense and other Federal activities, and to their contractors, subcontractors, and grantees.

Management emphasis on cost reduction and methods improvement over the last 4 years is paying high dividends at DDC. Workloads in all areas have increased tremendously during this time. However, management improvements have so offset these increased workloads

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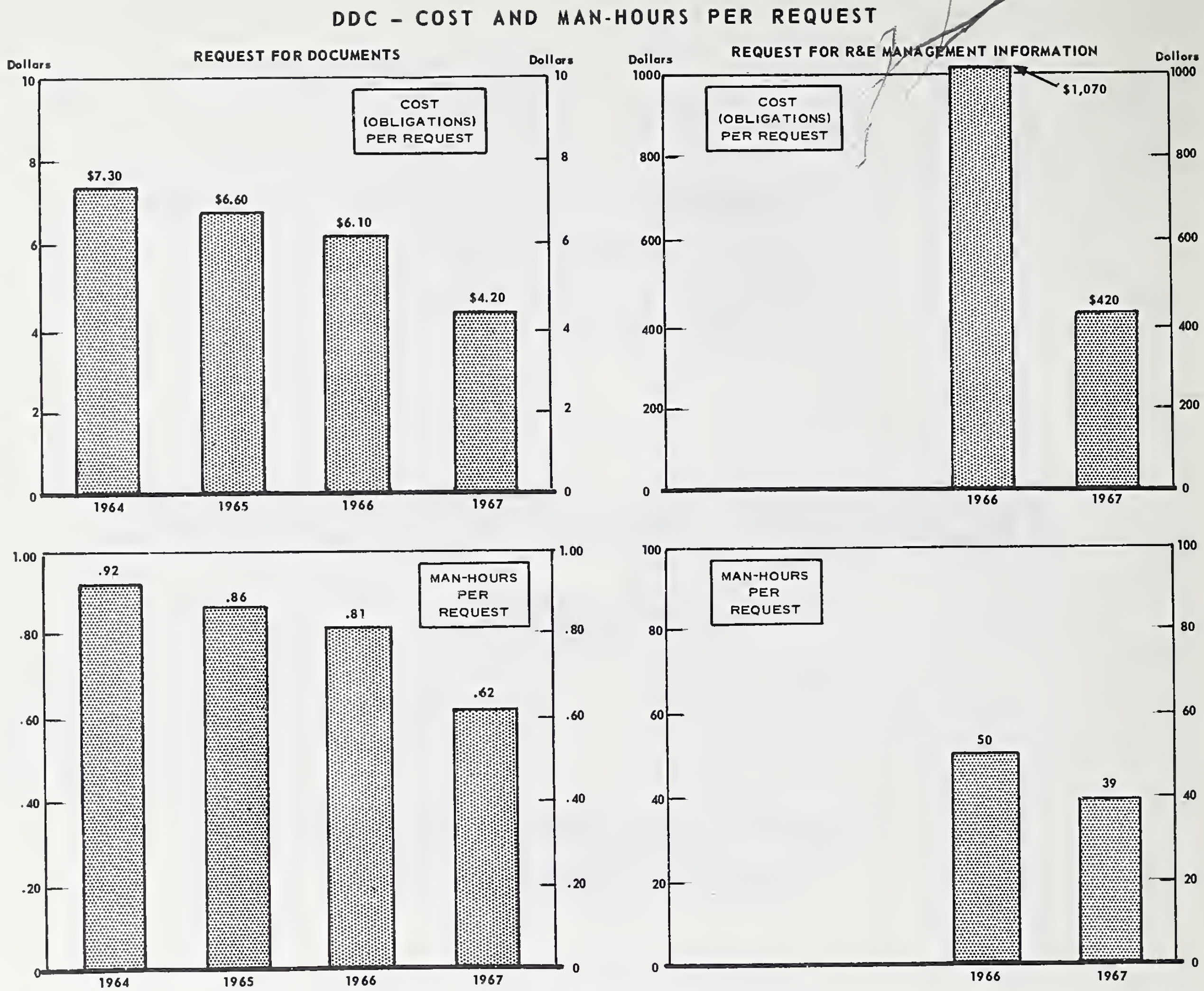
By **Dr. ROBERT B. STEGMAIER, Jr.**
Administrator, Defense Documentation Center
Defense Supply Agency



DDC – COST AND MAN-HOURS PER REQUEST

REQUEST FOR DOCUMENTS

REQUEST FOR R&E MANAGEMENT INFORMATION

FIGURE I

that the 6,300 organizations registered for service are receiving the products offered by DDC faster, in improved formats, and at greatly reduced unit costs.

In November 1963, for example, DDC required 9 workdays to process a request for a report at a cost of $7.30. Today, it costs $4.20 to process a similar request and the requests are being processed in less than 3 days. Based on fiscal year 1964 unit costs, potential savings of nearly $6 million would have been realized in fiscal year 1967 alone, when DDC processed 1,846,000 requests for technical reports.

There are some 45,000 documents announced in fiscal year 1964 and an average of 15 weeks was required to process a report from receipt to announcement. More than 53,000 titles were added to the collection in fiscal year 1967 and announcement processing was completed in 6 weeks.

The Center's collection of scientific and technical reports currently totals more than 830,000 titles. About half a million of these, those accessioned since March 1953, are under computer control for quick retrieval, including more than 50,000 titles in the field of electronics and electrical engineering and 70,000 which concern studies in physics. The reports are indexed under 22 subject fields.

These reports were generated through the billions of dollars expended to maintain our leadership in science and technology. The value and payoff of each one of these reports increases each time the information contained in it is put to further use.

Using these reports and other DDC products, a researcher can save his organization valuable time, talent, and dollars by determining quickly whether all or part of a particular project has already been accomplished by another research group. Or, if he determines that his project is not being duplicated, he may learn of various recorded experiments that will serve as valuable timesaving guides.

In fiscal year 1964, information gathered on reports being processed was put on punched paper tape. Considerable time was required to proofread and prepare corrected tapes for input to the computer. This method was replaced by a Terminal Data Input System, in which the document information is fed directly to computer disc storage during processing. Terminal operators are located in the processing areas so that keyboarding is faster and a more even workflow results.

All "Banked" Data Is Indexed

The method of printing DDC's announcement publication, the "Technical Abstract Bulletin," was changed from the offset method involving pasteup operations to a computerized photocomposition technique. The new method has reduced the cost and size of the twice-monthly publication and greatly improved its graphic quality and readability.

The researcher needs many different modes of entry into announcement media to satisfy his needs. In fiscal year 1964, DDC provided only a Corporate Author-Monitoring Agency Index and a Subject Index. Today, in addition to improved versions of these indexes, the user receives a Personal Author Index, Contract Index, and a Report Number (Correlation) Index. This expanded index service is provided by computer techniques and distributed as companion volumes to the announcement publication. In addition, the semimonthly indexes are cumulated into quarterly and annual indexes.

Organizations registered for service may request copies of technical reports in full size or in microform. The workload has increased 50 percent from the 1.2 million requests for documents received in fiscal year 1964, but the request processing time within DDC has been drastically reduced. An average inhouse processing time of 7.1 workdays was required to provide stock copies of reports in fiscal year 1964 as compared to the present average of 2.1 workdays. The average of 10.4 workdays required to furnish a reproduced report in fiscal year 1964 has been reduced to an average of 4.2 workdays.

Microfiche Speeds Retrieval, Costs Less

An important change occurred at DDC when microfiche became the basic microform for storing documents. The use of this 4- by 6-inch sheet film has many advantages over the 35 mm. microfilm (roll film) used previously, both for the Center and for the users. Microfiche can be produced more quickly at far less cost, shipping charges are lower, less storage space is required to maintain microfiche files, and they are easier to handle. Up to 58 microimages of pages can be stored on the first sheet of microfiche and up to 70 microimages can be stored on succeeding sheets. Recognizing the cost advantages offered by this medium, user requests for reports in this form amount to more than 20 percent of total requests.

Using the microfiche medium, today's engineer can maintain his personal library of hundreds of reference documents in one desk drawer. To use the data, he would need only a microform reader, and many of these are being manufactured in sizes compact enough to be listed as desk accessories.

Computer searches and bibliographic printouts based on given subject areas or cataloging information are available to the user. DDC is receiving more than 2½ times the number of requests for bibliographies received in fiscal year 1964; the increase was from 7,603 to 20,433. The 1964 average inhouse processing time of 9.7 workdays for bibliography preparation has been reduced to the current average of 2.5 workdays.

The format of bibliographies has also been improved. In fiscal year 1964, the researcher received decks of library-type catalog cards in answer to "what was available" questions concerning his particular problem or project. Bibliographies, today, are sent as computer printouts bound as finished documents. Each page contains a description of a single document, to aid the researcher in determining its relevance to his project.

Other DDC Services

Many other changes have been effected within the Center's technical report program to assist organizations in the Defense and Federal research and development communities to make more effective use of DDC services. The following are among those changes:

a. Through the Center's expanded registration program, registering for DDC services also entitles the user to services offered by Defense-sponsored Information Analysis Centers and by major technical libraries. The Center maintains the central authority file of users having established their eligibility for access to the scientific and technical information. The level of clearance for classified information and the need-to-know classifications by subject area are maintained in this file.

b. DDC provides a referral service to direct authorized users to Defense-sponsored organizations, groups and individuals which are known or potential sources of specialized information, not available in the technical reports.

c. The Center performs primary distribution within the United States of certain foreign technical reports.

d. To assist military procurement organizations, DDC maintains a data bank of Contractor Performance Evaluation and Contractor Cost Reduction Reports.

e. Recently, DDC was assigned the mission of maintaining the DOD Thesaurus of Engineering and Scientific Terms. This is a Defense-wide technical vocabulary which will be the standard for all Defense activities involved in research and development.

Research and Technology Work Unit Data Bank

DDC's other major program, the R&T Work Unit Data Bank, has a tremendous potential for improving efficiency of Defense research and development efforts, with resultant savings in research time and costs. For this reason, this data bank program receives first priority on manpower and other resources at the Center.

This data bank program is concerned with the computer storage of information pertaining to current Defense-sponsored efforts in research and exploratory development. Such R. & D. efforts encompass many thousands of individual projects involving the talents of hundreds of thousands of engineers and scientists. This data bank of technical and management information is operated to assist in administering this vast research and development program.

Using the Work Unit Data Bank (WUDB), an engineer or scientist can determine quickly what research and exploratory development work is currently being conducted in a specific field. Among the data elements concerning each work unit are the purpose, costs, activities involved and their responsibilities, contract or grant numbers assigned, and work unit completion dates.

The R&T Work Unit Data Bank was established in fiscal year 1966 with 18,600 work unit descriptions. At the end of fiscal year 1967, there were 30,200 work unit descriptions in the system. The workload, in terms of requests, grew from 924 requests in fiscal year 1966 to 3,194 requests in fiscal year 1967. Service response time is approximately 6 workdays when special programs are not required and 7 workdays for customized service. Although a development program, within a year's time the cost of processing a request was cut in half.

The following data banks of management and technical information also are maintained at DDC as subsets of the WUDB.

a. Technical Facilities Data Bank
b. Computer Sciences Data Bank
c. Information Sciences and Technology Data Bank.
d. Interagency Life Sciences Exchange Data Bank
e. Data Bank for Planning Data on R&E Projects

Development Program

Another relatively new mission assigned to the Center concerns conducting a development program in the field of scientific and technical information. The goal of this program is to develop improved systems capabilities for responding fully to the Defense research and engineering communities' needs for technical documentation and information programs and to improve management decisions and weapons systems support.

Management Control

The management philosophy that "operational problems will be made visible and resolved" has been followed by action and has not merely been given lip service at DDC. During late fiscal year 1964 and early fiscal year 1965, the Center developed a scheduled production system for major programs.

Each sequential process within a program was analyzed and a maximum allowable inventory of work in process was established. The supervisor at each of the various work stations is responsible for keeping his backlog of work at or below a certain predetermined level. Daily progress reports for major programs by process are distributed to all decisionmaking management personnel. Control charts are posted daily and are reviewed by the Administrator and Deputy Administrator. This persistent daily attention of decision making personnel has added important visibility to operational problems and has contributed to a drastic reduction in costs and processing times for all major programs.

DDC's Batting Average on Costs and Productivity

Since a measure of profit is not present in a public agency, indices are required for an overall appraisal of performance. In the timeframe of fiscal year 1964 through fiscal year 1967, technical reports and R&E Management Information reports furnished on request have been the two quantifiable end products furnished to DDC customers. If DDC were a private concern, these two main products would have to bear the fixed and operating costs of the business, and profit could only be made by markup on them.

However, the prime measure of efficiency in DDC as a public agency is the trend of unit costs and productivity for the products furnished to the DOD RDT&E community. The charts shown in figure 1 show unit costs and productivity for requests for documents and requests for R&E Management Information from fiscal year 1964 through fiscal year 1967. The long-range trend shows significant reduced unit costs and productivity increases. DDC is proud of progress to date and is exerting all possible effort to achieve continuing costs reductions and productivity increases in the future. ☐

AIR FORCE ANNUAL COST REDUCTION AWARDS CEREMONY AND WORKSHOP

Almost 300 Air Force leaders from all over the world assembled at the Air Force Academy, Colorado Springs, Colo., on October 17, 1967, to recognize outstanding producers of cost reduction savings. This annual highlight of the Air Force Cost Reduction Program was followed by a 2-day workshop designed to increase understanding and promote identification and reporting of savings.

The Honorable Leonard Marks, Jr., Assistant Secretary of the Air Force for Financial Management, and Gen. Bruce K. Holloway, Vice Chief of Staff, USAF, assisted by Lt. Gen. R. G. Ruegg, Air Force Deputy Chief of Staff for Systems and Logistics, presented awards to 14 commands and 16 individuals whose achievements were outstanding contributions to the Air Force Cost Reduction Program during fiscal year 1967.

The recognition and importance that Air Force as a whole attaches to cost reduction achievements was evidenced by the attendance of 13 of the 20 major commanders and a total of more than 30 general officers.

The 2-day workshop was attended by approximately 150 people, representing the key cost reduction people from Headquarters USAF, and all of the command monitors, together with the command liaison auditors and budget project officers.

The introductory general session, chaired by Lt. Col. Fred A. Lupton of the Air Force Cost Reduction Program Office, included presentations on "The Fiscal Year 1968 Cost Reduction Program," by Mr. Sherman M. Funk, Chief of the Air Force Cost Reduction Office; "Program Management in the Military Environment," by Col. Henry Wojdyla, Professor and Head of the Department of Psychology and Leadership, Air Force Academy; on "Reporting and Rebuttals," by Lt. Col. Robert W. Fletcher, of the Air Force Cost Reduction Program Office; and on "Information Support of the Cost Reduction Program," by Mr. Dave Karten, editor of the USAF "Cross-Feed."

Following the general session, the program monitors, auditors, and budget officers convened in separate sessions to discuss problems unique to their areas. All attendees met jointly on the second day to review recommendations developed during the seminars. Mr. Funk closed the workshop by summing up the overall conclusions of the participants and calling the command monitors into executive session.

The Honorable Leonard Marks, Jr., Assistant Secretary of the Air Force for Financial Management presents the USAF fiscal year 1967 Outstanding Cost Reduction Program Management Award for Air Materiel Areas to Maj. Gen. Francis C. Gideon, Commander, Robins Air Materiel Area, Ga.

Gen. Bruce K. Holloway, Vice Chief of Staff, USAF presents T. S. Quinton L. Scott, 753d Radar Squadron (SAGE), Air Defense Command an award for saving $19,970 in radar equipment.

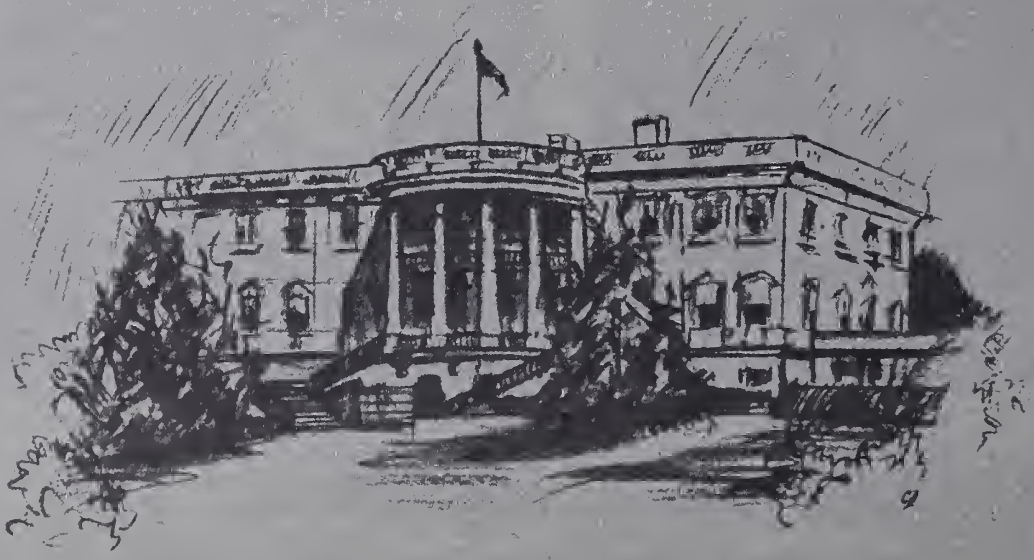
The White House, Washington

The attached report from the Secretary of Defense summarizes Defense industry's contribution to our national objective of obtaining required military effectiveness at the lowest possible cost.

Secretary McNamara reports that 85 companies voluntarily participating in the Defense Contractor Cost Reduction Program reported savings of $972 million during the year ending June 30, 1967. Savings reported over the last 3 years total over $2.7 billion.

I commend these companies for their significant and sustained response to my request for industry assistance in reducing Defense expenditures.

Lyndon B. Johnson



DEFENSE CONTRACTOR

COST REDUCTION PROGRAM

ANNUAL PROGRESS REPORT

MEMORANDUM FOR THE PRESIDENT—22 December 1967

It is now 4 years since you requested Defense contractors to assist in reducing Defense expenditures by expanding and intensifying their cost reduction efforts on Defense business. The voluntary Defense Contractor Cost Reduction Program was formalized 3½ years ago to provide a channel for communicating the results of these intensified efforts. The achievements reported since then by these contractors demonstrate clearly that Defense industry has given unqualified and continuing support to your stated objective. Cost reduction and management improvement have become a permanent way of life with a major segment of the Defense industry community.

Reporting Companies

Today, 85 parent companies are active participants in the Defense Contractor Cost Reduction Program—an increase of 13 percent over fiscal year 1966. They have 211 plants or divisions (an increase of 15 percent) which report to us semiannually. In fiscal year 1967, these companies received more than half of the $39.8 billion awarded by Defense to business firms for work in the United States.

Savings to Defense

Participating contractors report to us the savings they have effected by reducing costs, without sacrifice to requisite quality and reliability. These savings result from improved management techniques, procedures, or processes. Savings reported relate to Defense sales, exclusive of firm fixed price contracts. In the year ending June 30, 1967, participating contractors reported savings of $972 million on these Defense sales, which totaled $12.4 billion. In the 2 prior years of formalized reporting, they reported $1.8 billion in savings for a 3-year total of over $2.7 billion. These are direct savings to the Defense Department, since they represent the elimination of costs which otherwise would have been reimbursed.

Benefits to Industry

In addition to contributing to your national objective of "a dollar's value for every dollar spent", Defense industry considers cost reduction to be in its own best interest. The increased emphasis by the Defense Department on the use of incentive-type contracts, competitive procurement, and the application of value engineering techniques encourages Defense industry to stress cost reduction and management improvement.

The trend of the late fifties and very early sixties towards greater use of cost-plus-fixed-fee contracts by Defense has been sharply reversed over the past 6 years. This type of contract, which is usually justified only when there are great uncertainties involved, offers neither reward for good performance nor penalty for bad. The proportion of cost-plus-fixed-fee contracts awarded by Defense has been reduced from a high of 38 percent in fiscal year 1961 to 10.4 percent at the end of fiscal year 1967.

During the same period of time, the percentage of total procurement dollars awarded on a price competitive basis by Defense increased from 32.9 to 42.9 percent.

North American Rockwell Corp., in its latest annual report to stockholders, discussed today's Defense contracting environment:

> "While the combined volume of business in these two fields of defense and space continues to be high, we are also entering a period of new opportunities for greater returns on this business. In the current trend away from cost-plus-fixed-fee contracts, almost all North American's work in the 1967 fiscal year will be under fixed-price or incentive-type contracts. These involve both higher risks and the possibility of higher returns."

Defense has also increased financial incentives to encourage Defense contractors to seize every opportunity to eliminate nonessential design and performance features through value engineering. Recent departmental regulations have improved these contractual incentives by:

- Expanding the opportunities for a contractor to earn a greater share of his value engineering savings—in some cases to over 50 percent.
- Sharing the costs of developing a value engineering change proposal with the contractor where appropriate.

- Shortening the time a contractor must wait for payment of his share of the savings.

In addition to the incentives being offered by Defense, corporate executives are motivated because they consider an effective cost reduction program essential to stay competitive and earn reasonable profits. A successful program also enables top management to demonstrate its cost-consciousness to stockholders, customers, and the general public.

Curtiss-Wright Corp. summarized the benefits from its broad management improvement program in its latest report to stockholders:

> "These programs have consolidated functions and operations, reduced costs, increased efficiency, rechanneled our capabilities, and materially strengthened the competitive position of Curtiss-Wright."

In its most recent annual report, Lockheed Aircraft Corp. discussed cost reduction techniques, as well as benefits:

> "The third year of the intensified cost reduction campaign sponsored by the Government in defense and space industries once again showed improvement . . . Savings are shared with the Government and are used to strengthen our competitive position. They result from improved management techniques, computer aids, automation, process innovation, value engineering, and the Zero Defects quality improvement program."

Examples

Following are examples of savings reported by contractors during the year ending June 30, 1967:

Bell Aerospace Corp.

Bell Helicopter Co. eliminated fuel lines and jettison cables for auxiliary fuel tanks as built-in equipment on the UH–1D Helicopter. This change resulted from a value engineering analysis which disclosed that the auxiliary fuel tanks were used only for ferrying operations. The desired ferry capability was obtained by including these lines and cables in a relatively small number of auxiliary fuel tank modification kits. Elimination of this equipment from production aircraft saved the Army $97,047. In addition, the action significantly reduced aircraft weight.

General Electric Co.

General Electric's Defense Electronics Division is now providing new-type 25,000-hour miniature indicator lamps as replacements for 7,000-hour lamps in the display panels aboard Polaris fleet ballistic missile submarines. Use of the new lamps in the display panels of the 41-ship Polaris-Poseidon weapon system will mean 1,760 fewer lamp replacements per submarine per year. One-year savings to the Navy on current supply contracts totaled $19,321. The Navy will realize even greater benefits in reduced fleet operational maintenance.

Goodyear Aerospace Corp.

Goodyear recommend substituting special-purpose photographic units costing $8,804 each for units costing $20,263 each which were originally specified in an Air Force contract for mobile photographic facilities. Joint evaluation of the two units by Goodyear and the Air Force revealed that the lower cost unit was equal to, and in some features superior to, the more expensive one in performance and design. This change saved the Air Force $586,591.

Lockheed Aircraft Corp.

Lockheed Missiles & Space Co. changed from a lease arrangement with the manufacturer to an installment purchase contract for a digital computer, as a result of an analysis of all company computer costs. Savings totaled $206,292.

North American Rockwell Corp.

Autonetics Division centralized the shipping functions of its three product divisions on the basis of a systems and facility study. Operating costs were reduced $327,800 by consolidating shipments, improving manpower utilization, and reducing material requirements.

Olin Mathieson Chemical Corp.

The Indiana Army Ammunition Plant mechanized a propellant load line used in the production of the charge M67 for the 105 mm. gun. Fully amortized equipment on hand from a previous operation was modified and combined with new equipment for the mechanized operation. Savings to the Army over the prior manual operation totaled $770,408.

Philco-Ford Corp.

Philco-Ford's Aeronutronics Division replaced an aluminum sand casting used in the Shillelagh Missile flight control housing with a less expensive permanent mold casting and saved $698,793. The division also substituted a metal film resistor for a more expensive but less reliable wirebound resistor in the missile's control assembly and saved an additional $108,243.

Raytheon Co.

Raytheon substituted molded plastic assemblies for individually machined steel assemblies used in the production of the M905 bomb fuze. The saving on 1,400,000 fuzes was $232,500.

Remington Arms Co., Inc.

The Lake City Army Ammunition Plant reduced the size of the carton for the 5.56MM M193 Ball and M196

Tracer Cartridge and eliminated a tray previously specified for use with the carton. As a result, each packing box now holds 41 cartons (820 cartridges) instead of 36 cartons (720 cartridges). Reduced material costs for the cartons and reduced requirements for packing boxes and crates saved $414,833.

Joint Defense-Industry Workshops

During February-April of this year, a series of joint Defense-industry regional workshops was held to discuss mutual problems and interests concerning the Defense Contractor Cost Reduction Program. Over 1,000 industry and Defense representatives attended. At these meetings, working-level cost reduction personnel from both industry and Defense were brought face-to-face. Panel meetings at each workshop examined selected areas in depth. A specific conclusion was that the Contractor Program Guidelines issued in May 1964 are still working well.

The board chairman of one of the largest Defense contractors, in a letter to Defense, stated:

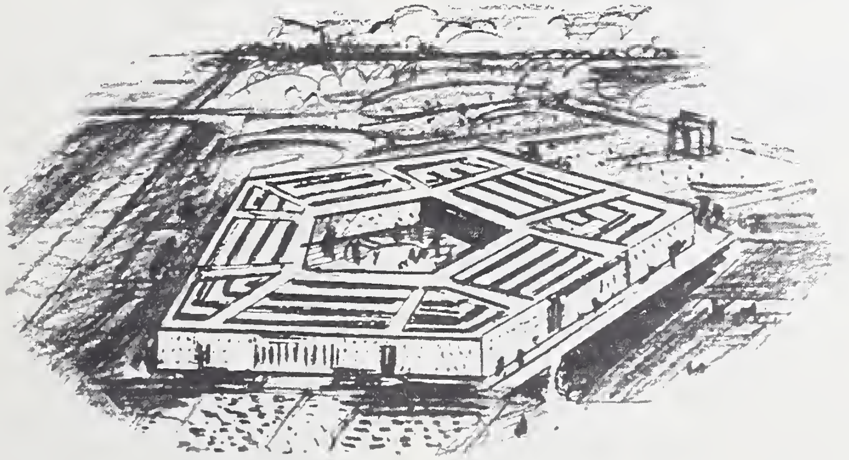
> "In further regard to the subject of motivation, we feel that the recent Defense-Industry Joint Regional Cost Reduction Workshops contributed significantly to even better working relations between DOD and the contractors, and to a more complete understanding of mutual problems and objectives."

We agree and plan to schedule joint Defense-Industry cost reduction meetings annually.

Future of the Program

I believe the record of the voluntary participants in the Defense Contractor Cost Reduction Program is clear evidence of Defense industry's accomplishments and sustained interest in support of our objective of conserving Defense resources.

You may be sure that we in the Defense Department will continue to work closely with our Defense contractors to capitalize on every opportunity for increased economy in Government.



THE POLICIES FOR EFFECTIVE MANAGEMENT

Reprint of an Address by Mr. Thomas D. Morris, Assistant Secretary of Defense (I&L) at luncheon meeting of Los Angeles Chamber of Commerce, Chamber of Commerce Building, Los Angeles, Calif., Thursday, December 28, 1967.

Imagine yourself 25 years from today trying to do research into the history of Defense procurement and supply management during the decade of the 1960's. If your research was based in part on newspaper stories published during calendar year 1967, you would find a confusing and contradictory set of press comments. Some of the front page headlines you would read are:

> **"PENTAGON LAX, OVERPRICING SOARS"**
> **"PENTAGON IS ASSAILED ON WASTE"**
> **"THE MULTI-BILLION DOLLAR GIVE-AWAY"**
> **"PROBERS OF OVERPAYMENTS ASSAIL 'SICK' PENTAGON SYSTEM OF BUYING"**

On the other hand, you would also find an editorial in the New York Times, dated December 3, 1967, defining what the Times calls "McNamaraism". McNamaraism is described as a "highly efficient, scandal-free Defense Department that is capable of absorbing enormous political and financial pressures and of stretching every available dollar and human resource to minimize the impact of the war."

At the beginning of the Vietnam buildup, Secretary McNamara laid down three policies to be applied, in the following order of priority:

- *First*, give the commander, without fail, everything he needs.
- *Second*, provide these needs without generating the huge excesses in materiel encountered in past conflicts—$12 billion after Korea.
- *Third*, procure these needs without relaxing improvements in contracting and supply management which have been inaugurated since 1961.

How well have these policies been implemented? General Westmoreland in his public appearances back home during the past year has made the following statements:

> *"Never before in the history of warfare have men created such a responsive logistical system . . . not once have the fighting troops been restricted in their operations against the enemy for want of essential supplies."*

I wonder how the historian of the future, faced with such contradictory press reports, will sort out facts from misconceptions. I would like to try my hand at this, with as much objectivity as is possible for one who is involved in the activities being criticized or praised.

The key problem, of course, is the sheer immensity of Defense procurement and supply operations, and the fact that these operations are carried out by thousands of human beings located in hundreds of places throughout the world. No reasonable person would contend that perfection can be expected—or is even attainable—in such a vast system. Last year, in awarding over $44 billion in new contracts, DoD's purchasing offices handled 15 million purchase actions. Even if they had been 99 percent perfect, errors on the remaining 1 percent of the actions could equal 150,000 mistakes in a single year. Please realize that you can't run the biggest business in the world without making mistakes. We try to hold these mistakes to a minimum—and we are succeeding.

Stated another way, almost every one of the 15 million purchase actions represents an opportunity for waste or improved buying, depending on the soundness of our policies and the skill of our procurement personnel.

No wonder the Defense Department has been described as an "Auditor's Paradise." Statistically, we can guarantee any auditor that he can find a problem in any one of our 500 purchasing offices if he spends enough time. And any single problem can mushroom into a full-blown congressional hearing, or a headline such as one of those which I read. Let me cite one recent example:

- This is the case of the AN/MRC–98 tropospheric scatter communications system. We own only 32 of these important systems and they are distributed throughout the world. They cost $427,000 each.
- Last year one of these systems suffered wind damage to its antenna. The local base responsible for reerecting the antenna did not stock all of the parts required for damage repair; nor could we afford to do this at each base for every piece of equipment for the same reason that you do not keep a complete set of spare parts for your automobile in your own garage. You would never use most of them. The base personnel did not know whether the parts needed were standard or specially designed. Thus they did what any prudent person would do. They consulted the equipment manual furnished by the manufacturer of the communications system and ordered directly from him in order to obtain expeditious delivery and parts of known reliability. The total cost of the order in question was $143.
- This purchase was investigated by the General Accounting Office at the request of a Member of Congress. After considerable research, including visits to the manufacturer and to several Defense installations, GAO determined that the parts in question were not produced by the end item manufacturer and that they were stocked elsewhere in our vast supply system. This finding resulted in a press release alleging that the Defense Department had spent several times more than necessary for these small parts because they were purchased from a middleman rather than direct from source. Our own research showed that if local base personnel had spent the same amount of time that GAO did to find this out, we might have saved $93; but that we would have spent many hundreds of dollars in additional administrative costs and delayed putting this valuable piece of equipment back into service. In hindsight we learned some valuable lessons from this investigation. But I believe our historian will conclude that we got our money's worth, and that the extra cost paid to the end item manufacturer represented a valuable service that he was better able to provide than we were.

Our historian of the future will doubtless lack the time and patience to dig out minute facts such as these. I would like to spare him this effort by answering for the record three of the charges being made today which I believe are based on simple misconceptions due to a failure (*often on our part*) to place all the facts in perspective.

CHARGE NO. 1: Defense Waits for Congress and GAO To Uncover Problems Before It Makes Efficiency Reforms

This impression is left in the public mind by the repeated appearance of headlines such as those I have cited. These headlines typically describe an individual procurement or supply error—errors of the type which would happen even if we were 99 percent perfect—errors of the type which will occur in the best managed, profit-motivated organization.

What Are the Facts?

Beginning with his first year in office, Secretary McNamara literally transformed the business management structure of the Defense Department by introducing new systems which energized the most massive management improvement effort ever undertaken in the Federal Government. One of these innovations was a program of cost reduction, built around 25 specific objectives. This program requires every major component of the Defense Department to establish an annual goal covering the dollar savings to be achieved under each of these objectives. These goals are just like the sales or profit goals which businessmen set. Our managers report progress against these goals quarterly; and their reports must be thoroughly tested for validity by an independent auditor. Each year the results of this program are reported in detail to the President and the Congress.

Documented savings during the last 6 years have been $15.8 billion, equal to about $225 for every wage-earner in the United States. During the past fiscal year alone the management actions reported will produce savings of over $2 billion. These reports were backed up by 30,000 separate management improvement actions. Without the impetus of the McNamara efficiency program, these actions might never have been taken; they certainly would not have been recorded, audited, and measured. But yet a critical reporter could describe this effort in a headline which reads: "PENTAGON ADMITS 30,000 GOOFS."

The cost reduction program is now a way of life in the Pentagon. In the current fiscal year, the Military Departments have committed themselves to taking additional actions which will add another $1.5 billion in savings. General Westmoreland has recently inaugurated a special program in Vietnam which has the goal of saving over $220 million this fiscal year. He calls this program "MACONOMY".

Rather than waiting to be pushed to do these things, we painstakingly study every report of our own auditors, the GAO and the Congress in search of new cost reduction opportunities.

Furthermore, the Defense Department has been joined in this effort by major Defense contractors—many of them in the Los Angeles area—who have cost reduction programs paralleling the DoD program. I am proud to report that 85 companies—which operate 211 manufacturing facilities—reported savings on Defense contracts last year of $972 million.

I will leave to our historian to judge whether this record indicates a lack of concern, a lack of imagination, or a lack of aggressiveness by the Defense Department and its contractors in finding ways of cutting waste in procurement and supply management. Now let's examine:

CHARGE NO. 2: Defense Inventory Management Is so Poor That We Lose or Throw Away Hundreds of Millions of Dollars Each Year

This charge was widely publicized in a recent magazine article entitled, "The Multi-Billion Dollar Give-Away." The article was based on a report of the General Accounting Office which found instances of inadequate management of Defense-owned production equipment on loan to Defense contractors. The GAO study was a factual and useful document. It did reveal that errors had occurred in our supervision of the 400,000 separate pieces of production equipment distributed among 5,500 contractor plants.

GAO in its report fairly and accurately reported: "The Secretary of Defense was receptive to our suggestions. Actions have been taken or planned * * * which, if properly implemented, should result in significant improvements in the control and utilization of such property." However, this part of the story was not told.

Nor was the important question asked, "What benefits have accrued to the taxpayer from the use of Defense-owned machine tools?" The fact is that last year by careful management of this equipment, assigning it to production work rather than allowing it to remain idle, we have been saving over $100 million per year in new equipment purchases during the past four years. A central record is maintained of the 400,000 pieces of Defense-owned industrial production equipment. This record is consulted when a new production contract is let to see whether an idle piece of equipment can be put to work. If we do not have idle equipment, we require that the contractor furnish the facilities. During the past several years contractors have sharply increased their investment in plant and equipment to produce Defense hardware.

But production equipment is a small part of the total Defense supply inventory, which consists of 4 million items—ranging from tanks and trucks to repair parts, maintenance supplies, medical supplies, food, clothing, etc. The sales catalog of one of the largest commercial retail organizations contains approximately 200,000 items and is about 2 inches thick. On this scale, the catalog of defense supply items would be 20 times larger—nearly 3½ feet.

What has happened to the management of this inventory since 1960? During this time our investment in aircraft, missiles, ships, and major end items has risen 41 percent, and our military force has increased 13 percent, but our supply inventories have been decreased dramatically:

- In 1960, we were keeping 61 cents worth of supplies in warehouse stock for every dollar's worth of major equipment in use. Today the figure is down to 43 cents.
- Excess stocks in each Military Service have been put to use elsewhere in DoD, thus avoiding several billion dollars in new procurement.
- 1,800,000 items have been eliminated from our stocks by standardization and elimination of duplicate or out-moded items. Using our previous scale, we have eliminated a stack of catalogs 1½ feet high. It is estimated that we save $100 a year for each item purged from inventories. This means that our management costs are $180 million less today by reason of getting rid of unnecessary items.
- Almost half of our 4 million supply items are assigned to a single manager who buys, stores, and issues them for all of the Military Departments. In 1960 only 1 percent of supply items were under a single manager.
- As a result of pruning our inventories and applying more intensive management, we have closed 29 supply depots altogether and released 219 million square feet of storage space in the United States. Many of the facilities released are now producing taxable revenues for local communities.

Again, we will leave to our historian to judge whether this is a record of "incredibly sloppy" inventory management, as one of our critics has charged. The incredible fact is that these results have required motivated efforts by approximately 1 million people who are involved in the management and maintenance of Defense inventories.

Finally, let us examine:

CHARGE NO. 3: 86 Percent of Defense Buying Is Noncompetitive and the 100 Largest Business Firms Continually Get a Larger Share of Military Procurement. This Is "Cause for Alarm."

This statement recently appeared in the Congressional Record. The facts, I believe, give cause for pride, certainly not for alarm.

The importance of obtaining keen competition in Defense procurement is a daily watchword in every one of our 500 Defense procurement offices. Improved competition was, in fact, the first of the 25 management improvement objectives for which a specific goal was set by Secretary McNamara in 1961. Since then, a special monthly report has been received by the Secretary of Defense showing the amount of competition actually achieved by our buying offices. We watch these figures as closely as a businessman watches his profit and loss statement. Even under the accelerated tempo and sharply increased procurement workload of the Vietnam buildup, the Military Departments have not relaxed the emphasis on obtaining competitive proposals.

The results have been dramatic and far beyond those originally considered. Last year over $18 billions of contracts were awarded after receiving prices on competitive proposals from two or more bidders. This placed over $4 billion more in price competitive procurement awards than would have been achieved at the 1961 rate.

In addition, competitive influences prevail in much of the balance of our procurement program. Large systems contractors, for example, compete for the program not just for the instant contract. Winning the program not only assures such contractors a source of business for many years, it also assures them of a continuing base from which to advance their knowledge of the technology and for attracting and retaining top talent. These hotly contested program awards—which are made on the basis of design and technical criteria—added $2 billion more to the volume of contract awards made on the basis of competition last year.

Recently we asked a group of businessmen who sell both to Defense and to commercial customers how they rated the competitiveness of Defense procurement compared to their commercial business. Ninety percent said that Defense procurement was *far more competitive*—that they had to use sharper pencils when quoting on Defense orders.

Partly as a result of increased competition, Defense business is now spread far more widely than it was in 1961 and prior years. Last year the 100 companies receiving the largest dollar value of military prime contract awards declined in their share of awards by 12 percent. On the other hand, small business firms obtained a 27-percent larger share of DoD contract awards than in 1961. This dramatic shift did not just happen—it was the result of an intensive effort to attract more small business firms to bid on Defense orders.

But these indicators are only part of the procurement improvement story. During the past 6 years the use of the cost-plus-fixed fee contracts—under which the Government pays all allowable costs, plus a guaranteed fee on top—has been reduced from 38 percent to just over 10 percent of awards. This means that almost 90 percent of our contracts today are being performed under incentive and fixed-price contracts. For the most part, only Research and Development programs remain on a straight cost reimbursement basis, since in such situations we are buying talent and know-how rather than production hardware. In fact, during the past 6 years $35 billion have been switched from CPFF to fixed price and incentive arrangements.

Special attention has also been placed on more economic buying of spare parts. Last year 65 percent of our spare parts (over $2.8 billion) were purchased direct from parts manufacturers—with competition wherever possible—rather than through the end item manufacturer. This saved the overhead and handling costs of the middleman.

There are further opportunities to improve the procurement of the remaining 35 percent of our parts requirements, although the savings will be relatively small because the quantities involved are small and because many of these items are purchased infrequently or under emergency conditions, such as the example of the tropospheric scatter communications system which I described earlier.

Conclusion

Our historian in concluding his chapter on defense management during the decade of the 1960's will have before him both the headlines and the facts. He will have the job of judging the meaning of individual examples taken out of the larger context of the total program, and the headlines some of them produced.

But our historian will also have the advantage of perspective. He will be able to compare Defense Department management before and after McNamara. The management disciplines, the dramatic results, the zest for greater efficiency and lower costs at all echelons of Defense management—these McNamaraisms will be a part of his concluding chapter. They may, in fact, become its dominant theme.

The question is whether our historian will find that McNamaraism survived or succumbed to bureaucratic inertia. I can speak with confidence for the career military and civilian managers in the Pentagon. They are determined that the efficiencies and management improvements made to date are but challenges for still further improvements tomorrow. For in the broader context, this is the essence of McNamaraism. □

notes from the.. director's desk

The following notes were provided by Harrell B. Altizer, Director for Cost Reduction and Management Improvement Program, Office of the Assistant Secretary of Defense (Installations and Logistics) for readers with a yen for more nuts-and-bolts knowhow in systems management.

HANDBOOK FOR CONTRACTOR PROGRAM UPDATED. The "Defense Contractor Cost Reduction Program Handbook" (DoD 7720.12-H) was revised and re-issued in December 1967. This publication contains all formal guidance for the Contractor Program and its relationship to the internal DoD Cost Reduction Program. While designated primarily as a procedures "bible" for those directly concerned with the Contractor Program, it should be of interest to many of our DoD cost reduction coordinators as well. Copies were sent to participating corporations, reporting units, Defense monitors and appropriate audit offices. Others interested should contact Thomas H. E. Winshurst, Coordinator for Defense Contractor Cost Reduction Program, Directorate for Cost Reduction and Management Improvement Program, OASD(I&L), Room 2B322, The Pentagon, Washington, D. C. 20301.

MACONOMY. This is the project identification for General Westmoreland's drive to improve management effectiveness in Vietnam. This new project will identify savings that evolve as a result of management actions taken by MACV. The results will be reported to the Secretary of Defense on a quarterly basis commencing with the quarter ending 31 March 1968. I am sure this effort will serve to stimulate added cost concern among those on "this end" who are inclined to feel that support of SEA and cost reduction are incompatible.

CHANGE BUT NO CHANGE. As old hands are replaced up and down the line by retirements, reassignments and changes of command we find some of the same "ghosts" reappearing to haunt the new crop of managerial neophytes that plagued their predecessors until they gained a better understanding of the objectives and procedures of the Cost Reduction Program. One of the most feared of these demons was the memory of past cost cutting drives where the pay-off for a good improvement idea was a reduction in the unit's operating funds equal to the resultant savings. This fear was dispelled at the very beginning of the Program with clear-cut policies on retention of savings by the reporting units to meet other approved high priority requirements consistent with existing reprogramming procedures. Another is the fear that a reported management improvement action will automatically be interpreted as evidence of current or past mismanagement. We should remember that none of us are perfect and few of us know every single detail connected with our operation. If we lived in a perfect world filled with perfect people there would be no need for a Cost Reduction Program. Unfortunately, this is not the case. There is room for improvement in nearly every management situation and it's our objective and duty to seek out these deficiencies and correct them wherever they may be and whatever the cause. Chances are that if you don't find them, someone else will.

THIS ONE IS A GASSER

A wide-awake Navy photographer snapped this moving scene. The photo shows a gas station attendant emoting before an audience of one to dramatize an out-of-gas situation in Station Y–204 at the Naval Supply Center, Norfolk, Va.

Station Y–204 has a sister station (W–111) that never runs out of gas. W–111—located at the other end of the Center—is always full because petrol feeds to it from pipes connecting with the large storage tank in the fuel yard. Meanwhile, poor sister Y–204 swallows only 2,400 gallons at a time from a tank truck that resupplies it eight times a week.

Y–204, which gasses up forklifts and other equipment, keeps well supplied for normal workweek activity but runs short under pressure of weekend and overtime demands. The gas shortages cause work delays, equipment down-time, and inefficient use of alternate equipment.

Charles H. Belote, a truck driver at the Center, suggested diverting all Y–204 business to W–111 on Saturdays, Sundays, holidays, and after working hours. Closing Y–204 for these periods reduces: costs of attendants, tank truck refills, and work stoppages. (The closing also brings down the curtain on the touching little drama in the photo.)

MINI-SHUTTLE

At Selfridge Air Force Base (Michigan), a large bus was replaced by a mini-bus for shuttling when a survey showed that the number of passengers no longer warranted the bigger one. The mini-bus, available from the base motor pool, operates at 3 cents per mile less than the full-size vehicle, resulting in a saving of $700 in fiscal year 1967.

TUBE TESTER DEVELOPED

T. Sgt. Carl Shelenberger of the Air Force Communications Service's 2046–3d Communications Detachment deserves salutes, bouquets, kudos, or whatever it is that economy-minded NCO's rate when they save Uncle Sam money.

Shelenberger developed a tester for tubes in a component of a radar set—and saved his detachment $1,450 in fiscal year 1967.

The TD–50 Sweep Generator is a component of the AN/MPN–13 Ground Control Approach (GCA) Radar Set. This component has four 4D32 tubes in one circuit. When a tube failure caused the circuit to go dead, all four tubes were replaced because no tube-test equipment existed for finding the single bad tube. At $36.80 per tube, each set thrown away cost the Government $147.20. Shelenberger's tube tester now pinpoints the circuit's defective tube for selective discard.

ARMY BEATS RUG CLEANING COSTS

Army personnel "called on the carpet" in the Vogelsberg District, Army Area Command, Germany, may gain some small comfort from knowing that the carpet, at least, is spotless. Thanks to Lt. Col. Elsie Weible, assistant deputy chief of staff for Area Command Logistics and Col. C. B. Smith, Commanding Officer of the Vogelsberg District, a new $60,000 automatic rug cleaning machine has been installed that can clean a 9x12 foot carpet every 3 minutes. This machine, believed the only one of its kind in use in the Army today, has been turning out 20,000 square yards of immaculate carpeting a month and will soon be doubling the production rate with annual savings in carpet cleaning costs in excess of $114,000.

The apparatus is being used to clean all Army carpets throughout Area Command's seven districts. According to Colonel Smith, ". . . this machine represents another step forward in the Area Command concept of consolidation and centralization of support services in the interest of economy and more efficient service." The latter advantage is realized by obtaining a better and faster cleaning job than heretofore possible.

The giant machine gobbles dirty carpets at one end, then beats, vacuums, scrubs, rinses, and dries them before disgorging the unblemished material that emerges from the other end ready to be rolled up by yet another automatic feature of the machine. Not only has the device ended all carping about carpet cleaning but it does such a fine job that Colonel Smith expects that many rugs slated for disposal will now be saved by thorough cleaning.

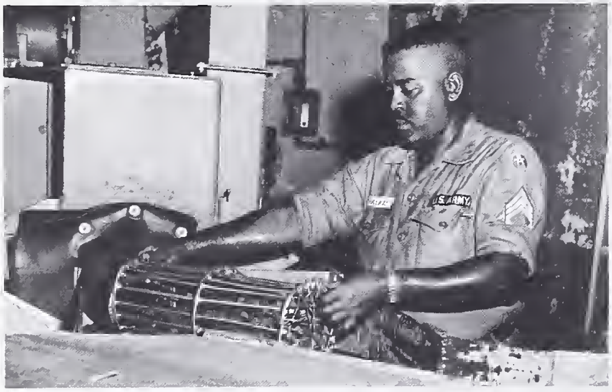
LAS VEGAS SQUADRON WINS QUARTER MILLION

Excessive failures of high-power tubes prompted the 865th Radar Squadron in Las Vegas, Nev., to study the problem in depth. The study showed that power fluctuations and outages cause most tube failures. The primary source of electric power was from the city of Las Vegas with a secondary source being our inhouse power generators.

A new policy now insures a consistent power input for the station. Inhouse power replaces commercial power any time fluctuations or outages occur or the winds reach 25 knots. Advance notice of power fluctuations or outages is provided by the Nevada Power Co.

This new policy reduced the consumption of high-power tubes 83 percent over the previous year and resulted in a cost reduction saving of $281,400 in fiscal year 67.

SANDBLASTS SMALL PARTS



Sfc. Frank Fisher, Renovation and Normal Maintenance NCOIC with the Ammo Storage Division of the 2d Log Comd's Directorate for Supply Operations, prepares to remove the rust from mortar rounds by inserting them into a sandblaster. This operation was suggested by Sfc. Fisher as a possible moneysaver, but it turned out to be a moneymaker for him. Maj. Gen. C. C. Haug, Commanding General of the 2d Log Comd, recently presented Sfc. Fisher with a check for $1,270 in recognition for the NCO's cost reducing idea.

Sfc. Fisher suggested that to expedite and reduce costs, the smaller 60 mm. and 80 mm. fin assemblies should be placed in wire baskets and run through the sandblaster used on the larger 155 mm. motar fins. The former method was a process in which rust was removed with sandpaper, steel wool, and good old-fashioned elbow grease. The workload that now takes only hours once took two 8-hour, 10-man shifts to complete. Savings in labor alone totaled over $16,000 for fiscal year 67–68.

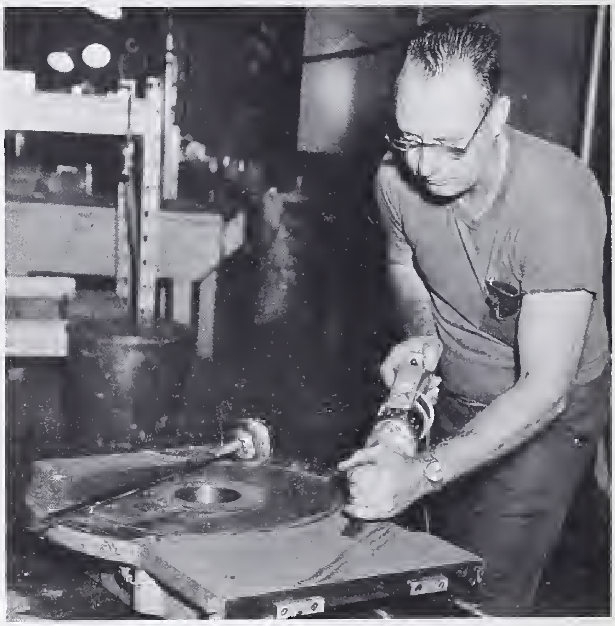
ENGINEERS UNEARTH CONVINCER

A "show and tell" demonstration by the Army Corps of Engineers, New York District, convinced competitors for a water distribution system contract that their lowest bids were just not low enough.

Investigation revealed that bidders' knowledge of heavy shale formations in the area inflated the quotations. Army Engineers eliminated all apprehensions over subsurface conditions when they proved that the shale was stratified in such a way as to be easily excavated. The engineers did this by digging several demonstration trenches and inviting the bidders to inspect the subsurface stratification. Convinced, the same contractors resubmitted bids—all of them lower.

The lowest bidder on the first go-round still ended up as the lowest bidder, but this time his bid was $34,000 less—proving there are dollars in "them thar digs."

CORN FLAKES



The long blade on the wheel is a manual flaker. The tool in the man's hands is a powered flaker.

What is a flaker? A flaker is a tool used for flaking.

So what is flaking? Flaking means roughing up smoothly machined metal surfaces.

Why? To make pits that will retain oil.

Why? So that one metal surface can slide against another metal surface without freezing.

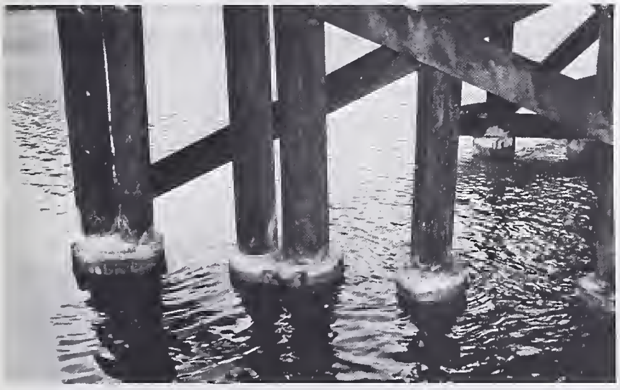
Why does the Journal care? Because James Kakara (photo above), Defense Depot Tracy (California), is showing us how many manhours the new power tool saves.

How many? $4,800 worth each year.

. . . oh!

Capt. Robert Shaw, Tyndall Air Force Base (Fla.) believes that slogans produce savings. Consequently, he sees that appropriate slogans get placed in conspicuous spots around the base. He is shown placing on the lightswitch one of his favorites "I Want To Go Out With You".

HIGH BRIDGE BID FINESSED



The lowest bid received for repair of a bridge over the old French Canal, near Fort Sherman, C.Z., was still too high by Army estimates. Local contractors submitted a bid of $75,000 to replace rotting pilings under the bridge. Army had programed $37,600 for the job.

Looking for a better deal the Army had Col. Norman A. Hall, Engineer, U.S. Army Forces Southern Command, take a hand in the estimating. After a thorough study, Hall laid his cards on the table.

His idea was to remove the unsound sections of the pilings and cap the lower part with concrete, above the water line so that the remaining upper sections rested on the concrete base (see photo above).

This practical solution cost only $11,600, saving $26,000 of the funds originally programed.

ONE GOOD TURN—ETC.

Sammie S. Roberts, of Army's Jefferson Proving Ground, Ind., believes in doing a good turn daily—particularly for targets.

The Proving Ground uses a large number of 1- by 5-foot targets for certain ammunition tests. The targets are positioned in a fixed array so as to measure fragment dispersion and penetration from various shots. After test firing, the targets are removed and the hits are marked and scored.

Roberts noticed that in most instances hits were concentrated in the upper half of each target and that the fragments penetrated less than halfway through the 1-foot thickness. He suggested that rather than use new targets for each test firing, the used targets could be turned and flipped end for end—thus providing a clean target surface for the next test.

The Proving Ground accepted his idea and found that not only was there a significant reduction in targets required, but there was also saving in handling and transportation man-hours and a reduction in storage space used. By zeroing in on target costs, the installation saved $11,200 in fiscal year 1967, will save $5,556 in the first quarter of fiscal year 1968, and is expected to realize substantial additional savings in the future.

HOMEBREW COSTS LESS—The reagent used to test anti-icing additives in jet propellant fuel cost $1.70 a vial commercially at McGuire AFB (N.J.) until M. Sgt. Gaylord W. Taylor of the 438th Supply Squadron concocted the same reagent locally for $1.18 per vial. Fiscal year 1967 savings totaled $1,148.

COPY CATCH

Otis Air Force Base cut copy costs of purchase orders $2,380 by consolidating monthly orders into a single annual order for all commissary stocks having stable rates of consumption.

Previously 400 supply bulletin purchase orders were prepared monthly in single copies by the commissary and forwarded to the base procurement office, where each order was reproduced in 15 additional copies, for a total of 6,000 copies monthly. At a cost of 3.5 cents per copy, the annual expenditure was $2,520.

It was determined that the monthly delivery order could be converted to an annual basis and that the number of copies of each order could be reduced to 10 without decreasing efficiency of the operation. Under the new method, only 4,000 copies need be reproduced each year at a total cost of $140.

THE TIE THAT BINDS

Air Force MSgt Tommie Lloyd (photo) found a snappy solution to a sticky problem when he substituted rubber bands for masking tape to bind bundles of cargo straps.

The straps—for tying down cargo on transport aircraft—are rolled and bound in bundles when not in use. The binding was 2-inch masking tape—messy to apply and hard to remove.

MSgt Lloyd is NCO-in-charge, Fleet Service, 438 Military Airlift Wing, McGuire AFB, N.J. He asked himself: "Why not rubber bands instead of tape? Tests showed that size 84 bands were ideal. As a result of Lloyd's stretching his imagination, the straps are now secured for storage in half the time, the bands are cheaper and can be reused, the appearance of the bound straps is vastly improved and the straps are available for use in a jiffy. Lloyd's idea will save the Air Force $4,283 in fiscal years 1967–69.

SEALS LEAKY FUEL CELLS

Complete replacement of flange fittings in leaky fuel cells was everyday practice at the Naval Air Rework Facility, Pensacola, Fla., until two innovating employees developed a low-cost sealant repair technique.

Each F9F aircraft is equipped with two fuel cells—one in the forward and one in the aft fuselage. Fuel is fed to the aircraft via hoses attached to the fuel cells at flange openings. Under the old method of repair, damages to the cell in the area of the flange opening required the complete replacement of the flange fitting. In correcting the leaks, which are found on 22 percent of the F9F fuel cells processed, an average of eight flanges per cell were being replaced.

Two members of the Production Shop Department at NARF, Carl J. Rogers, Jr., and Fred E. Sollie, developed a sealant repair method.

The method consists of grooving out cracks around the flange fittings on the outside of the cell and applying a sealant compound in the grooves. Three coats of adhesive cement are applied—both outside and inside the cell—over the sealant and also over the entire flange area. A specially designed clamp is then pressed through the circular flange opening and held securely in place over the patched area until the cement dries. The extra strength provided by the sealant and adhesive cement actually makes the patched flange and surrounding cell area superior to new equipment.

Messrs. Rogers and Sollie were awarded $640. The benefit to the Navy was $76,000 in fiscal year 1967 and NARF estimates $88,000 in future years.

Above photo shows a repaired F9F aircraft fuel cell at NARF, Pensacola, Fla. Dark areas around flange fittings (circular openings) illustrate repairs in lieu of new fittings.

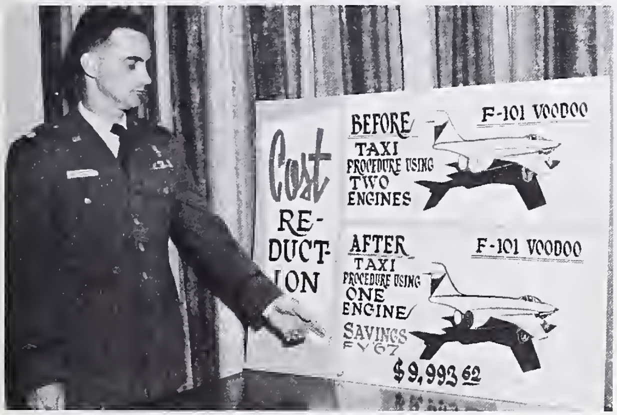
TWO TO TAXI?

It does not take two jet engines to taxi an F–101B jet aircraft to its parking area.

Maj. Billy G. Langhofer, 60th Fighter Interceptor Squadron, Otis Air Force Base (Massachusetts), pointed out that shutting down one of the plane's two engines immediately after clearing the active runway—

- reduces fuel consumption;
- minimizes the need for the pilot to "ride" his brakes to maintain safe taxiing speed;
- gives the pilot time to check the hydraulic pump on the operating engine while taxiing.

Langhofer's idea saved $10,000 in fiscal year 1967.



Maj. Billy G. Langhofer, a navigator at Otis AFB, points to display highlighting the savings which resulted from his cost reduction idea. $10,000 was saved during fiscal year 1967 by using only one engine to taxi F101's instead of two.

SAY HAY A DILLY WAY

That weedy looking stuff on the "South 40" could mean cash on the barrelhead instead of a backbreaking cut-and-trim.

Journal regulars may recall our blurb (fall 1966) on "Savings At Grass Roots Level." (Cows and sheep clipped grass on thousands of Defense-owned acres—and their owners paid the Government for the privilege.)

Now comes Army Missile Command, Redstone Arsenal (Alabama) with an imaginative adaptation of that cost-cutter. M. C. Salmon and J. N. Weldon of the Post Engineer's Office found that the Arsenal's grasscutting contract included 100 acres of open field. The two employees scouted up some local farmers interested in the hay crop, convinced the contractor to drop the 100 acres from the lawnmowing contract (for a $400 saving), and sold the haying privilege to the highest-bidding farmer for $101.

Total saving: $501. And that, to coin a malapropism, "ain't peanuts."

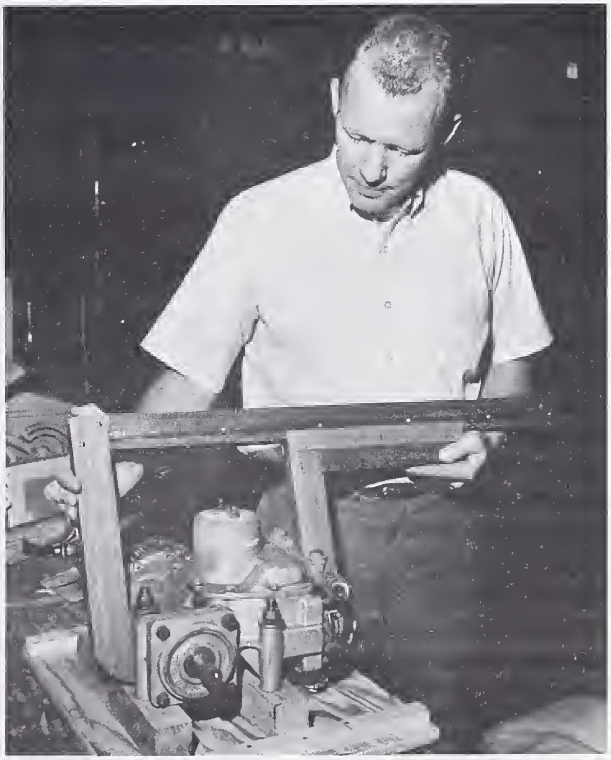
ENGAGING SOLUTION

The complexities of packing odd-shaped items like pumps, starters shafts, and axles have been simplified at the Sacramento Army Depot as the result of a suggestion submitted by an employee.

The new idea, now part of the depot's processing and assembly operation, will save the Army installation an estimated $1,850 annually. James E. Gibson (photo) designed and developed a gage to measure the item to be packaged and shipped.

Previously, the packer had to place a board or square on each side of the item and measure the distance between them. This kind of estimating was awkward and time consuming and often resulted in errors. Complications would increase if the packer had to depend on sight estimations.

With the new gage, the packer merely places the adjustable jaws on each side of the item. The ruler on the top bar reports the actual size, quickly designating the packaging needed and ultimately providing full protection for the item during shipment and storage. The new device has eliminated or substantially reduced errors caused by inaccurate measurements.



James E. Gibson, Sacramento Army Depot, Calif., demonstrates his new packing gage which greatly simplified the job of estimating packing box sizes for odd-shaped items.

TRASH CASH

The 507th Fighter Wing at Kincheloe Air Force Base (Michigan) saved $11,100 by modifying old dumpster trash boxes for use with new LODAL trucks instead of purchasing new boxes.

Modification kits for existing boxes were acquired off of an excess requirement list from Wright-Patterson AFB at no expense to Kincheloe. Labor cost for installing the kits in 30 boxes was approximately $860. New boxes would have cost $400 each, or a total expense to the Air Force of $12,000 for 30 boxes.

NO SCREWS LOOSE HERE

One component of the R–1820 Engine Driven Fuel Pump is the pressure adjusting cover, which holds the pressure adjusting screw in place. A safety wire runs from the screw nut to an anchor spot on the cover which keeps the nut and screw from loosening, thus preventing loss of fuel pressure.

Removal of the safety wire during overhaul resulted in breakage of the anchor spot at a rate of 70 percent. In these cases, the pressure adjusting cover had to be welded and redrilled at the breakage point to permit insertion and retention of the safety wire under tension. These operations required an average 0.33 man-hour per unit.

A beneficial suggestion from Carl E. Windhovel (photo above) of the Fuel Component Testing Shop, Naval Air Rework Facility, Pensacola (formerly Overhaul and Repair Department) proposed a simple solution. He relocated the safety wire anchor spot in an area where it would be less vulnerable to breakage. Thus, removal of the safety wire no longer means a lengthy repair job on the anchor spot 70 percent of the time. The improved method takes an average 0.17 man-hour per unit.

Mr. Windhovel's action resulted in a fiscal years 1967–69 savings to the Navy of $9,271 and a Beneficial Suggestion Cash Award of $15 for the aircraft engine mechanic.

ACTION! CAMERA!

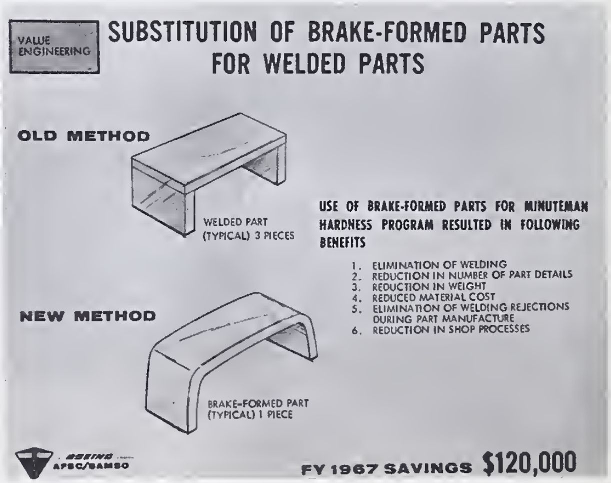
Never one to stomp when we could tiptoe the Journal prints this soft-sell reminder that the 16½-minute Kodacolor film "So What's New—In Ideas" is available from Army, Navy, Air Force, and DSA headquarters Cost Reduction Offices and is familiarly known at these sources as OSD 2–67.

We are authorized to say unequivocally that it is by far the best (and only) cost reduction film OSD has made this year.

The photo shows James Handley (right center, holding script) "on location" at Tooele Army Depot, Utah, directing his film crew in one of the film's sequences. Also shown is Victor Lyon, Chief Support Division, Tooele Depot (at Handley's left), and Jack Frazier from Headquarters Army Material Command.

SUBSCRIPTIONS CANCELED

The Air Force's 6931 Security Group, APO New York, 09291, canceled long-standing subscriptions to Government Contract Report, State and Local Taxes, Federal Tax Handbook, Mideast Mirror, Official Railroad Guide, and Official Steamship Guide. This pruning of reading material not needed for mission requirements will save $405 in fiscal year 1968.


VALUE ENGINEERING
OLD METHOD
WELDED PART (TYPICAL) 3 PIECES
NEW METHOD
BRAKE-FORMED PART (TYPICAL) 1 PIECE
BOEING
AFSC/SAMSO

SUBSTITUTION OF BRAKE-FORMED PARTS FOR WELDED PARTS

USE OF BRAKE-FORMED PARTS FOR MINUTEMAN HARDNESS PROGRAM RESULTED IN FOLLOWING BENEFITS

1. ELIMINATION OF WELDING
2. REDUCTION IN NUMBER OF PART DETAILS
3. REDUCTION IN WEIGHT
4. REDUCED MATERIAL COST
5. ELIMINATION OF WELDING REJECTIONS DURING PART MANUFACTURE
6. REDUCTION IN SHOP PROCESSES

FY 1967 SAVINGS $120,000

JAPANESE INDUSTRIALISTS BRIEFED ON DOD VALUE ENGINEERING PROGRAM

Representatives of the Central Japan Industries Association Management Study Team recently visited the Department of Defense to discuss the status and progress of the Value Engineering discipline.

The meeting was chaired for the DOD by Mr. Richard Biedenbender, Acting Director of VE, OASD (I&L), assisted by Mr. Rudy Kempter, OASD (I&L); Messrs. Paul Dobrow and Mike Zabych, Army Office Chief of Research and Development; Mr. Leif Watne, Defense Supply Agency; Mr. Morgan Roderick, Naval Ship Systems Command; Col. William Bedell, Air Force Procurement Directorate, and Mr. Larry Sauter, Naval Air Systems Command.

The 11 members of the Japanese team and interpreter included technical personnel employed in electrical equipment, port management, machine tool, and transportation equipment industries.

(Systems, continued from p. 14)

tiveness analysis helps to leave more resources available for the most effective programs.

Does cost-effectiveness analysis always lead to a preference for the cheapest system on a unit cost basis? The record shows it does not. I just mentioned a number of systems that were justified on the basis of cost-effectiveness analysis, each of which costs more per unit than its predecessor. However, in each case the margin of extra effectiveness per unit is worth the extra cost.

Does cost-effectivenes analysis or systems analysis lead to an overemphasis on factors that can be reduced to numbers? Not necessarily. A good analysis of the numerical factors leaves the decision makers more time and energy to weigh the intangibles.

Systems Analysis—Value and Potential

Decisions of the kind we are discussing turn in large part on judgments about questions of value and uncertain or unknowable facts. Nobody claims that systems analysis automatically produces good decisions or that all the decisions aided by systems analysis have been good ones. I am merely suggesting that systems analysis has proven to be a useful tool which can help the decision maker.

The potential of systems analysis is great in clarifying debate over program issues, in stimulating and recognizing new solutions to problems, and in helping the Government to spend money wisely. Within the limits of what any improvement in management can do, I believe that systems analysis has the potential to be a most important innovation in government management. ☐

(Commentary, continued from p. 2)

Progress Report

Thomas D. Morris, The Assistant Secretary of Defense for Installations and Logistics, signed a revision of DoD Instruction 7720.6 (DoD Cost Reduction Program) on February 2. The revision adds enclosure 4 to the Instruction and thus formally establishes the system for implementing the Management Improvement Program (MIP). The effective date for implementing the first 11 areas of the new program was January 1. The initial MIP report will cover the fiscal quarter ending March 31, 1968.

Logistics improvement areas are being worked into the program in three phases.

Phase I areas were selected by the Cost Reduction Steering Committee (which consists of OSD, Departmental, and DSA representatives). The Phase I areas are those having recognizable improvement potential and immediately available data for constructing a reporting system.

Phase II and Phase III areas were recommended by the Military Departments and DSA. Both Phase II and III areas require further review before improvement potentials can be ascertained. Data for designing management systems is available for Phase II areas but will have to be developed for Phase III areas.

There are 11 Phase I areas; over 30 Phase II areas; and about 20 Phase III areas.

MACONOMY

Something in a recent cost reduction report caused us to look twice—not the length (29 pages), not the number of major actions reported (100), not the kinds of improvements described.

The eyecatcher was the time-and-place spirit of the thing. The report was the initial cost reduction resume submitted by the U.S. Military Assistance Command, Vietnam.

We think it's great—even without toting up the impressive savings. The very existence of the report explodes that tired old World War II cliche for alibi-ing excessive costs, to wit: "Don't you know there's a war on?"

We were intrigued. Who exported the disciplines of a formal cost reduction program to the Far East? We searched the files. We found we had asked the wrong question. Project MACONOMY (The MACV acronoym for cost reduction) proved more an indigenous product of MACV than an export of the United States.

The historical events sequenced this way:

- A messagegram dated 29 October 1967 signed "Westmoreland" to the Secretary of Defense saying in part: "The purpose of this message is to inform you that I have initiated a priority program to identify specific areas of management effectiveness and to stimulate competitive and vigorous pursuit of imaginative management practices."
- A messagegram dated 10 November 1967 signed by the Secretary of Defense to COMUSMACV saying *en toto:* "I congratulate you on the initiation of Project MACONOMY. The Vietnam logistic buildup has been an outstanding accomplishment. Due to its scope and speed it is to be expected that we now have many opportunities for improving the management of inventories, facilities, and logistic support activities. Your plans for a vigorous, imaginative attack on these problems, will, I am sure, produce substantial savings in men, money, and materials. You have my full personal support and that of all Defense officials in this important effort. I will look forward to receiving periodic reports on your progress."
- A letter dated 3 January 1968 signed "Westmoreland" to the Assistant Secretary of Defense for Installations and Logistics saying in part: "The initial response displayed by our commands in support of the Project's objective has been enthusiastic and aggressive, with indications of increased momentum as the obstacles inherent in a new program are overcome."

That is the long and short of it. We repeat—we think it's great. Apparently, our feeling is shared. The Secretary of Defense, in a memo of 12 January 1968 to the Secretaries of the Military Departments and the Director of the Defense Supply Agency, observed: "Project MACONOMY initiated in Southeast Asia by General Westmoreland, under the most challenging circumstances, should serve as a model and inspiration to everyone."

System and Thought

Contrary to some opinion, system is no substitute for thought. There are, however, four kinds of thought associated with system. We illustrate.

- The newspapers recently reported a clear case of *nonthinking within a system.* A man in Maine completed the application for personalized auto license plates by inserting his initials on the line marked *FIRST CHOICE* And inserting "(NONE)" on the line marked *SECOND CHOICE.* He received plates labeled "NONE".
- Some people *think against the system*—like the fellow who has been receiving a regular monthly refund of $7 from his subscription bookclub ever since he inserted two holes at random in his punchcard billing for moneys owed.
- Of course there are people who *think independent of the system*—like the moppet who refrigerated her pajama rope-belt to make it stiff enough to thread back into the garment. (*JOURNAL*, Fall 1967, p. 8.)
- Finally—and in more serious vein—there are people who *think with the system*—like the Air Force sergeant who (supra, p. 51) "found a snappy solution to a sticky problem when he substituted rubber bands for masking tape to bind bundles of cargo straps."

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*The Journal tips its editorial beanie to Don Herby (he's the one in the middle) who braved chill Michigan winds to dramatize his organization's cost reduction program. (Confidentially, Don, the Journal would like to know whether * * * oh, skip it.) Lauri Voelker (left) and Sandra Doss help Don launch his Scotsmanlike drive toward greater economy at the U.S. Tank Automotive Center in Warren, Mich.*

(See page 7)

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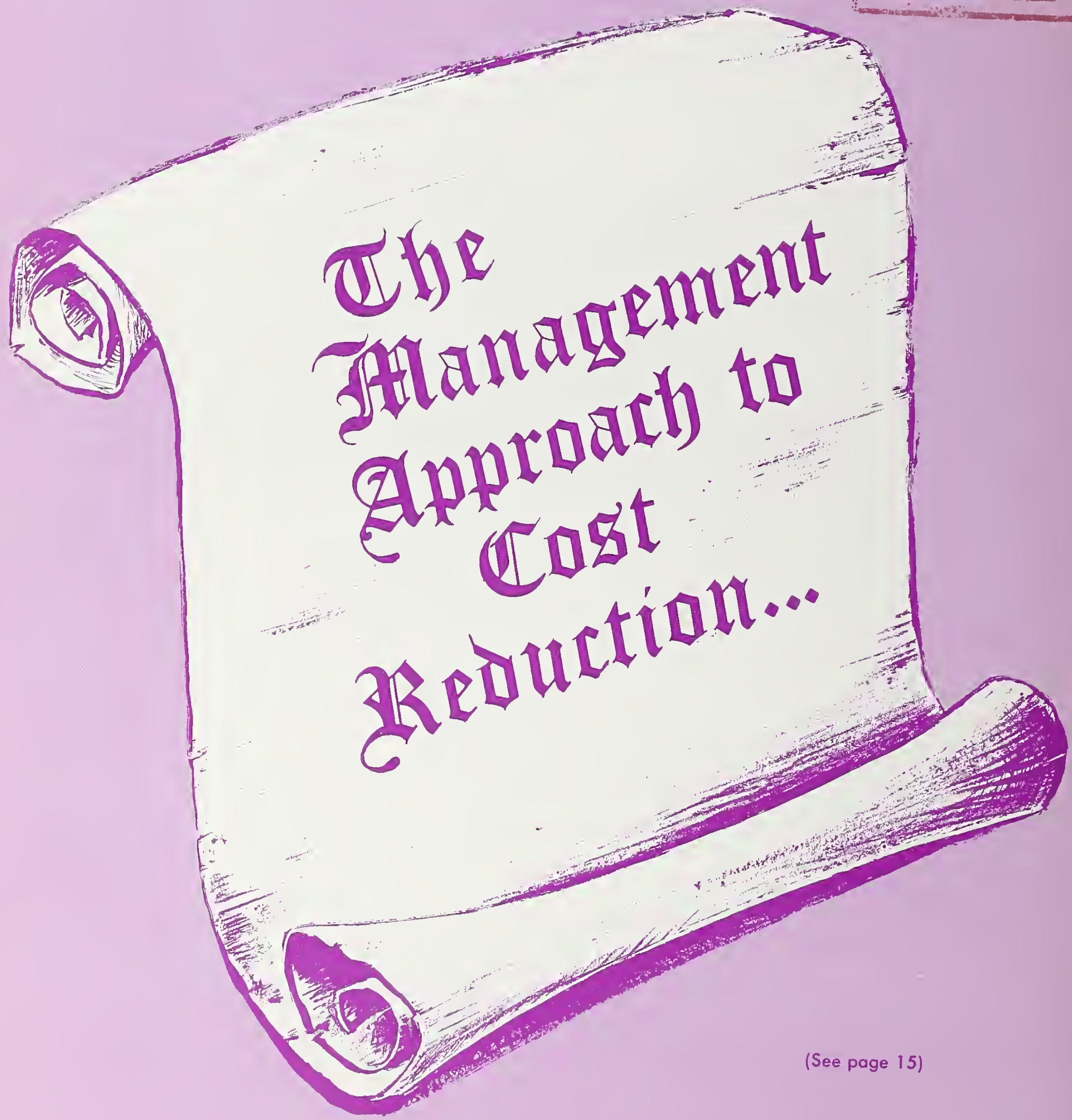
FLARE



(See page 15)